
Roche

Roche

2017 results

London, 01 February 2018

This presentation contains certain forward-looking statements. These forward-looking statements may be identified by words such as ‘believes’, ‘expects’, ‘anticipates’, ‘projects’, ‘intends’, ‘should’, ‘seeks’, ‘estimates’, ‘future’ or similar expressions or by discussion of, among other things, strategy, goals, plans or intentions. Various factors may cause actual results to differ materially in the future from those reflected in forward-looking statements contained in this presentation, among others:

1 pricing and product initiatives of competitors;
2 legislative and regulatory developments and economic conditions;
3 delay or inability in obtaining regulatory approvals or bringing products to market;
4 fluctuations in currency exchange rates and general financial market conditions;
5 uncertainties in the discovery, development or marketing of new products or new uses of existing products, including without limitation negative results of clinical trials or research projects, unexpected side-effects of pipeline or marketed products;
6 increased government pricing pressures;
7 interruptions in production;
8 loss of or inability to obtain adequate protection for intellectual property rights;
9 litigation;
10 loss of key executives or other employees; and
11 adverse publicity and news coverage.

Any statements regarding earnings per share growth is not a profit forecast and should not be interpreted to mean that Roche’s earnings or earnings per share for this year or any subsequent period will necessarily match or exceed the historical published earnings or earnings per share of Roche.

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Group

Severin Schwan
Chief Executive Officer

2017 performance

Outlook

2017: Targets fully achieved

Targets for 2017		*FY 2017*	
Group sales growth[1]	Mid-single digit (raised at HY)	**+5%**	✓
Core EPS growth[1]	Broadly in line with sales growth	**+5%**	✓
Dividend outlook	Further increase dividend in Swiss francs[2]	**CHF 8.30**	✓

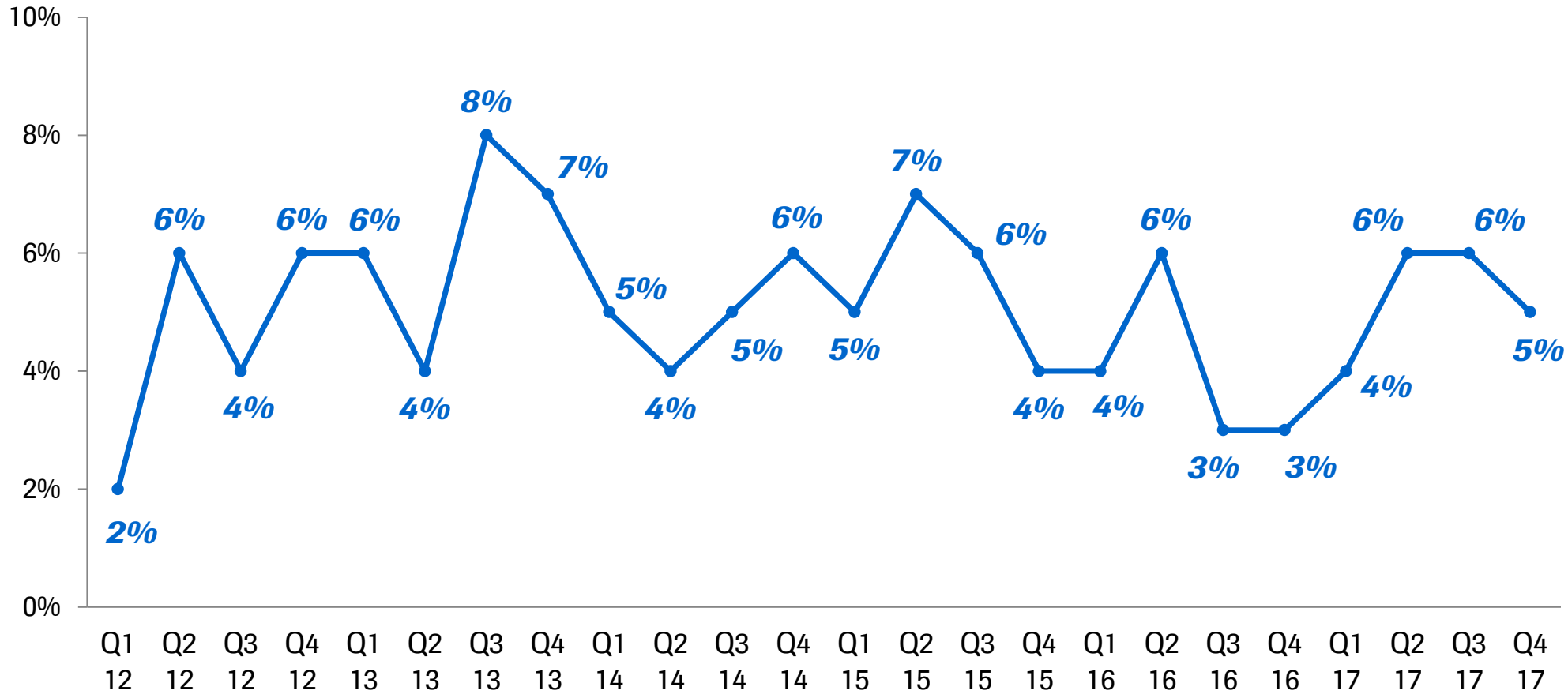
[1] At constant exchange rates (CER); [2] 2017 dividend as proposed by the Board of Directors

2017: Good sales growth in both divisions

	2017 CHFbn	2016 CHFbn	Change in % CHF	Change in % CER
Pharmaceuticals Division	**41.2**	39.1	**5**	**5**
Diagnostics Division	**12.1**	11.5	**5**	**5**
Roche Group	**53.3**	50.6	**5**	**5**

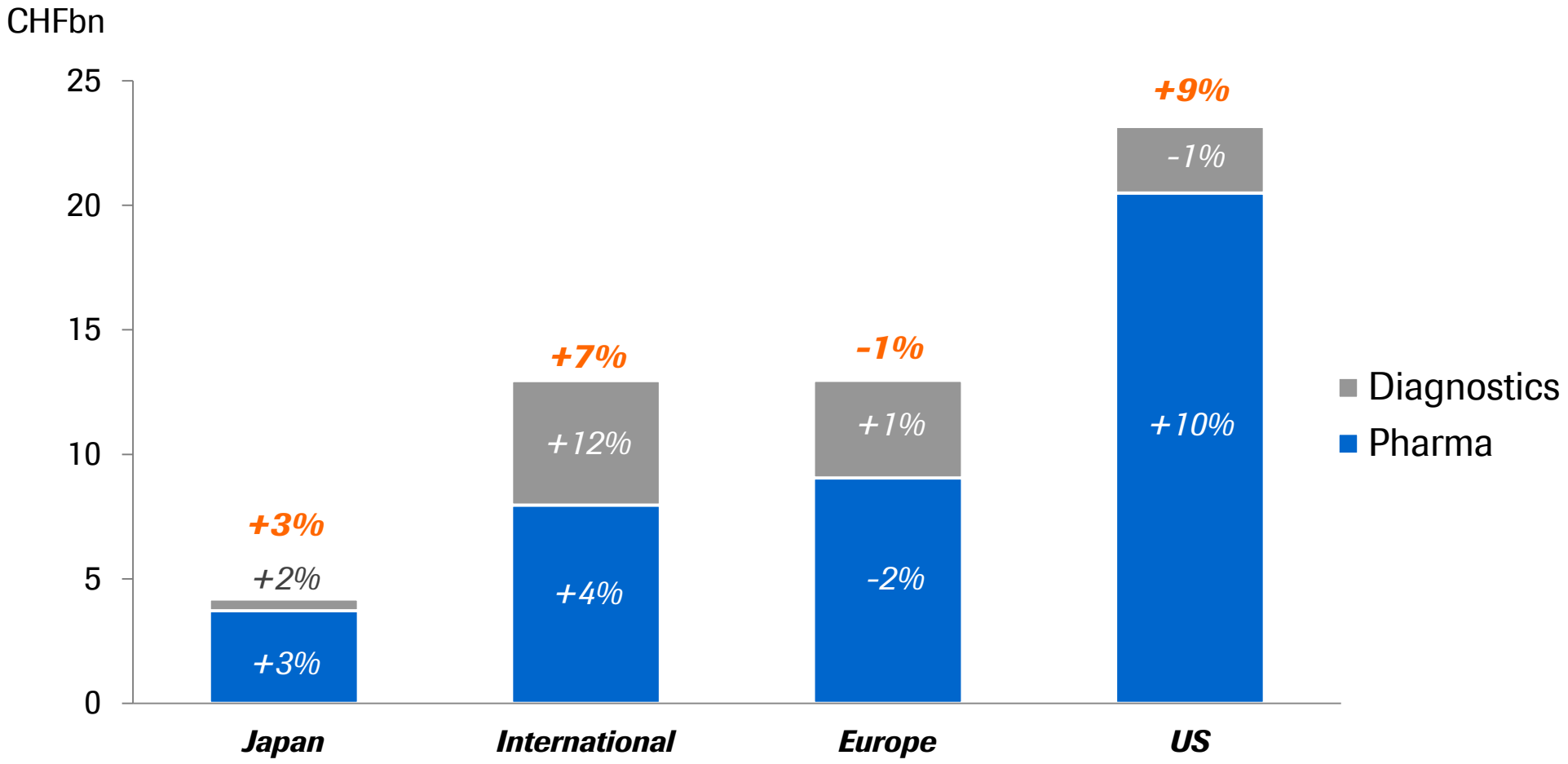
CER=Constant Exchange Rates

2017: Sales growth for the sixth consecutive year



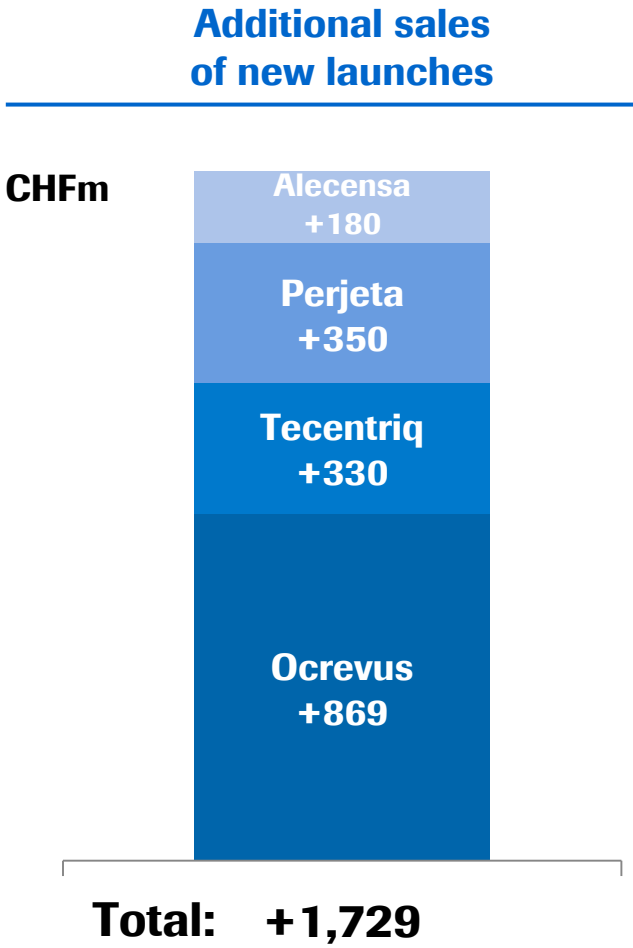
All growth rates at Constant Exchange Rates (CER)

2017: Strong sales growth in US and International



All growth rates at Constant Exchange Rates (CER)

2017: Successful launch activities
Differentiation driving growth

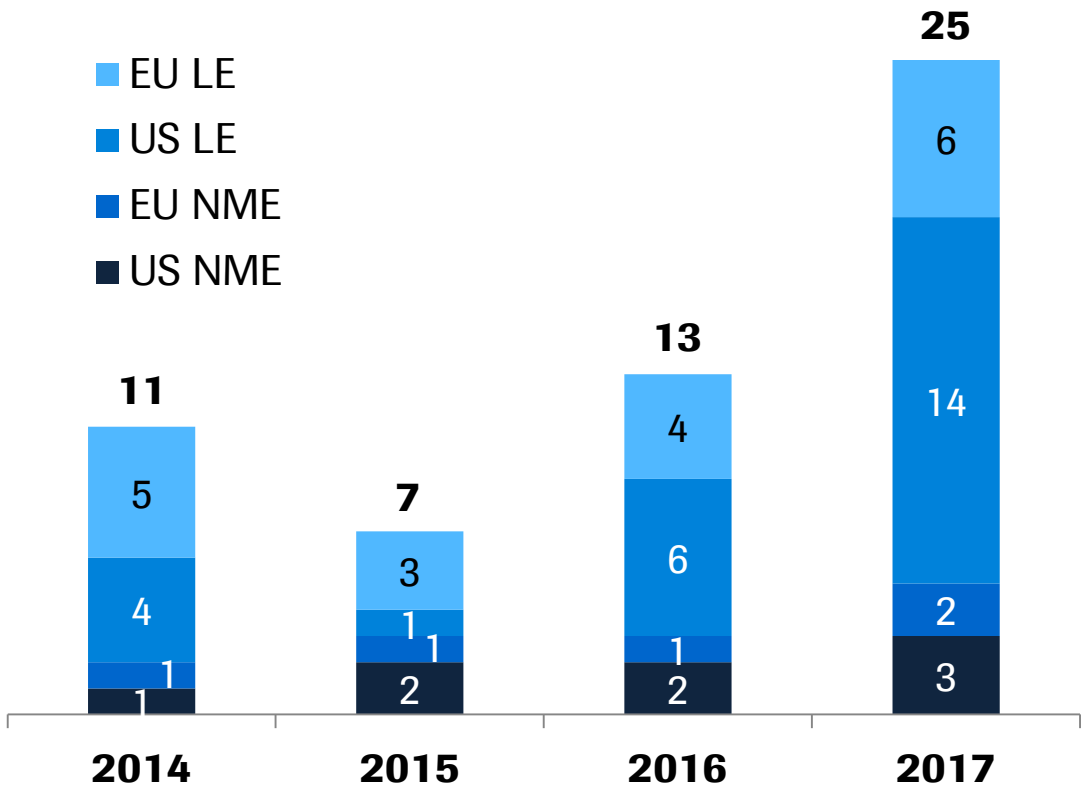


- EU / US approval, NCCN guidelines category '1'
- US approval in Her2+ mBC, eBC & neoadjuvant
- US / EU approval in bladder (1/2L) & lung (2L)
- US / EU / CH / Australia approval in RMS and PPMS

mBC=metastatic breast cancer; eBC=early breast cancer; PPMS=primary progressive multiple sclerosis; RMS=relapsing forms of multiple sclerosis; NCCN=National Comprehensive Cancer Network;

2017: Unprecedented pipeline advances

Approvals (US & EU)



Major approvals:

- **HER2:** Perjeta APHINITY (eBC) - US
- **CD20:** Gazyva GALLIUM (1L iNHL) - US
- **Hemophilia**: Hemlibra (Inh. patients) - US / positive CHMP opinion
- **Multiple Sclerosis**: Ocrevus – US / EU
- **Lung Cancer**: Alecensa – US / EU

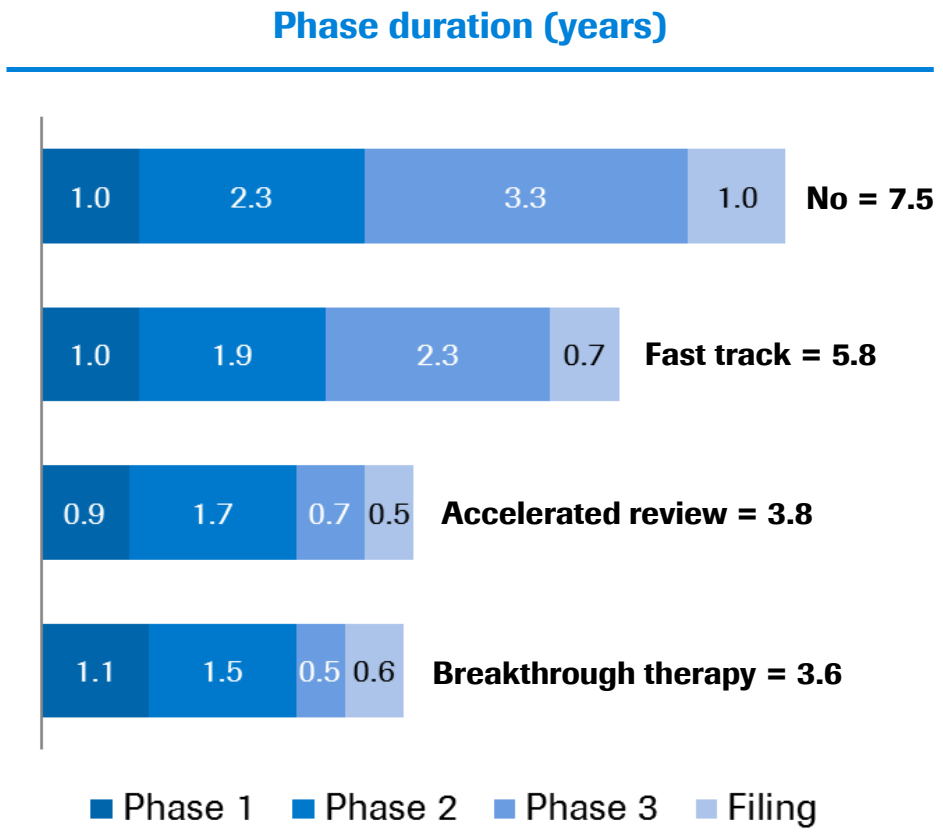
Major trial read outs:

- **Hematology**: Venclexta: MURANO (R/R CLL); Polatuzumab: (R/R aNHL)
- **Lung Cancer**: Tecentriq IMpower150,
- **Renal Cancer**: Tecentriq IMmotion151

Breakthrough designations: Accelerating cycle times and reflecting the quality of our research

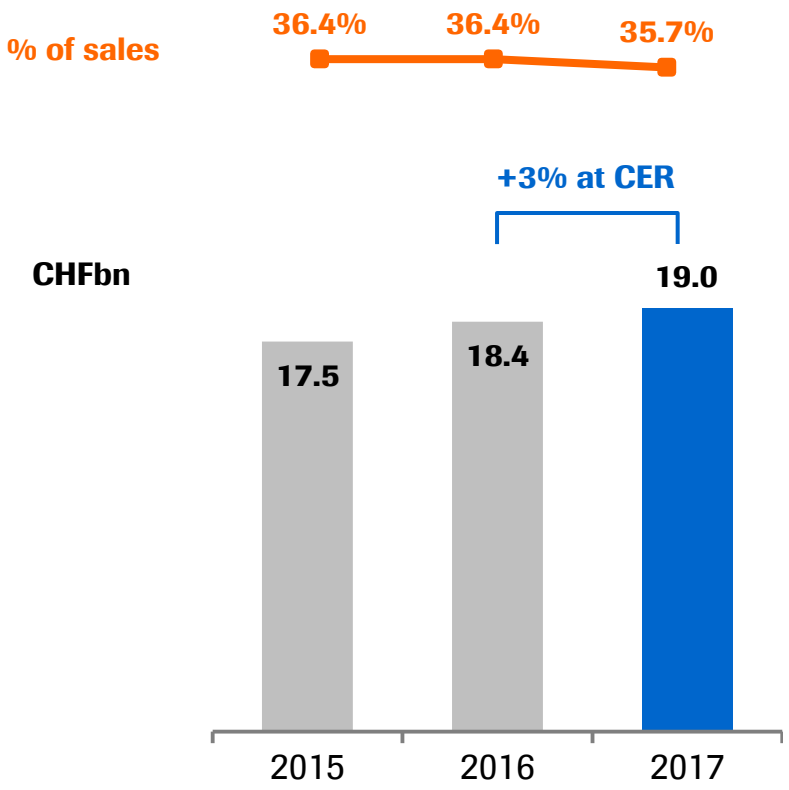
19 *Breakthrough Therapy Designations*

Year	Molecule
2018	***Balovaptan*** *(autism spectrum disorders)*
2017	***Polatuzumab vedotin + BR*** *(R/R DLBCL)*
	Venclexta + LDAC *(1L unfit AML)*
	Zelboraf *(BRAF-mutated ECD)*
	Rituxan *(Pemphigus vulgaris)*
2016	***Actemra*** *(Giant cell arteritis)*
	Alecensa *(1L ALK+ NSCLC)*
	Ocrevus *(PPMS)*
	Venclexta + HMA *(1L unfit AML)*
	Venclexta + Rituxan *(R/R CLL)*
2015	***Actemra*** *(Systemic sclerosis)*
	Tecentriq *(NSCLC)*
	Venclexta *(R/R CLL 17p del)*
	Hemlibra *(Hemophilia A inhibitors)*
2014	***Esbriet*** *(IPF)*
	Lucentis *(Diabetic retinopathy)*
	Tecentriq *(Bladder)*
2013	***Alecensa*** *(2L ALK+ NSCLC)*
	Gazyva *(1L CLL)*

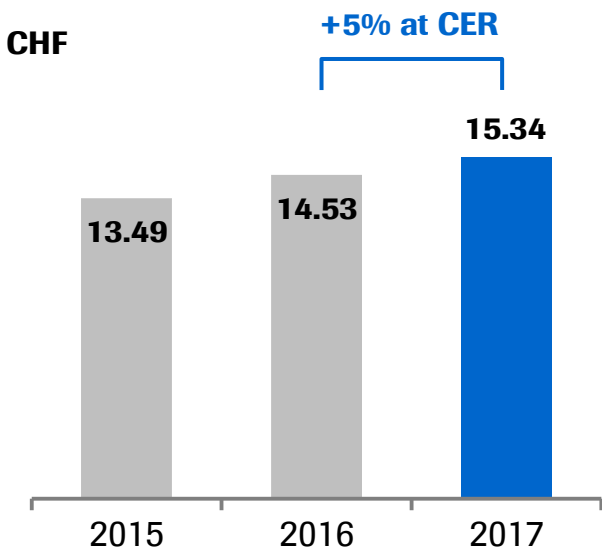


2017: Strong Core results and significant operating free cash flow

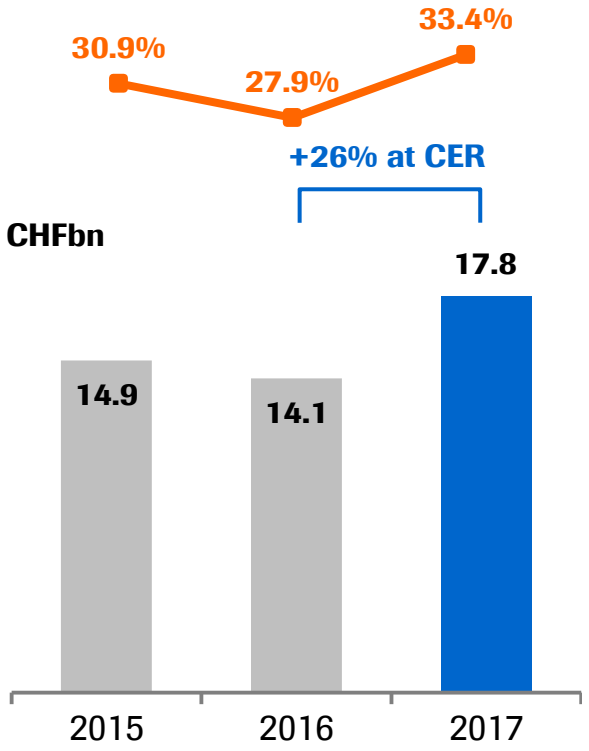
Operating profit



EPS

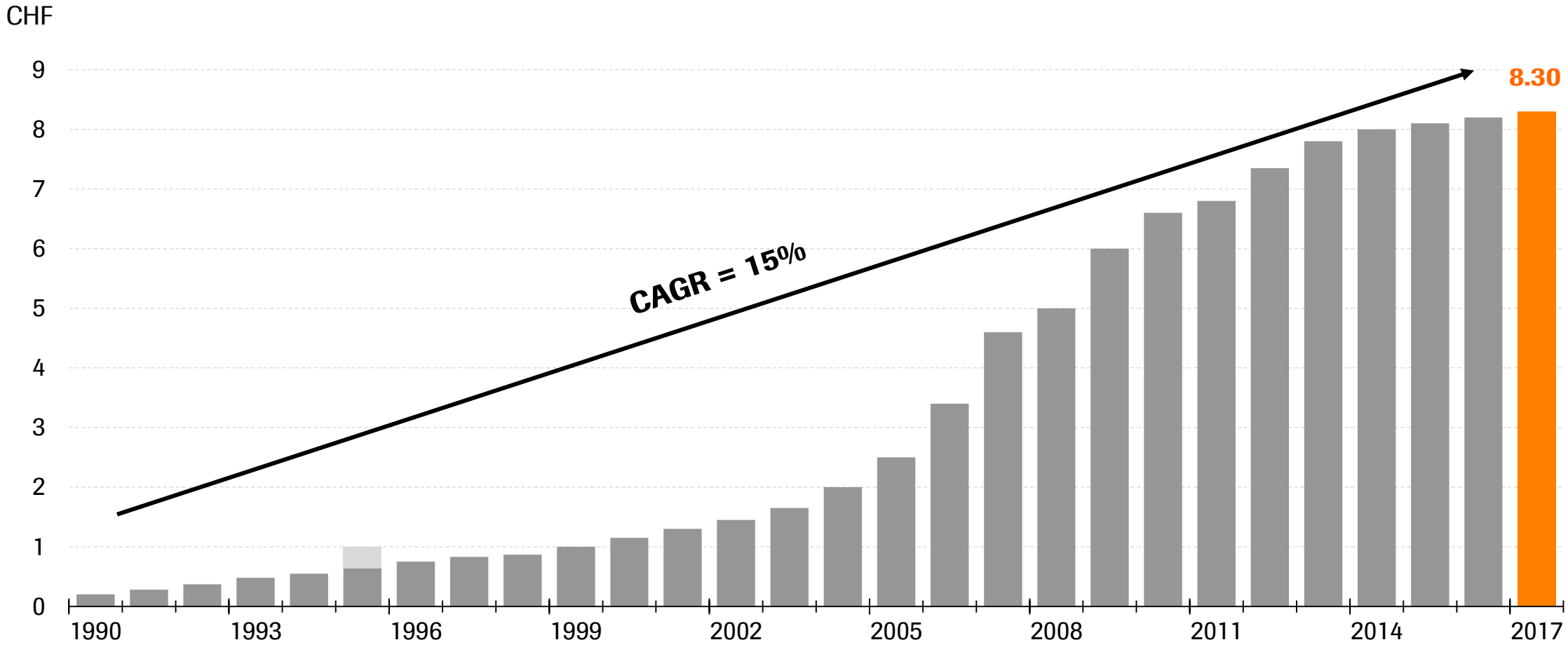


Operating free cash flow



CER=Constant Exchange Rates

2017: 31st consecutive annual dividend increase

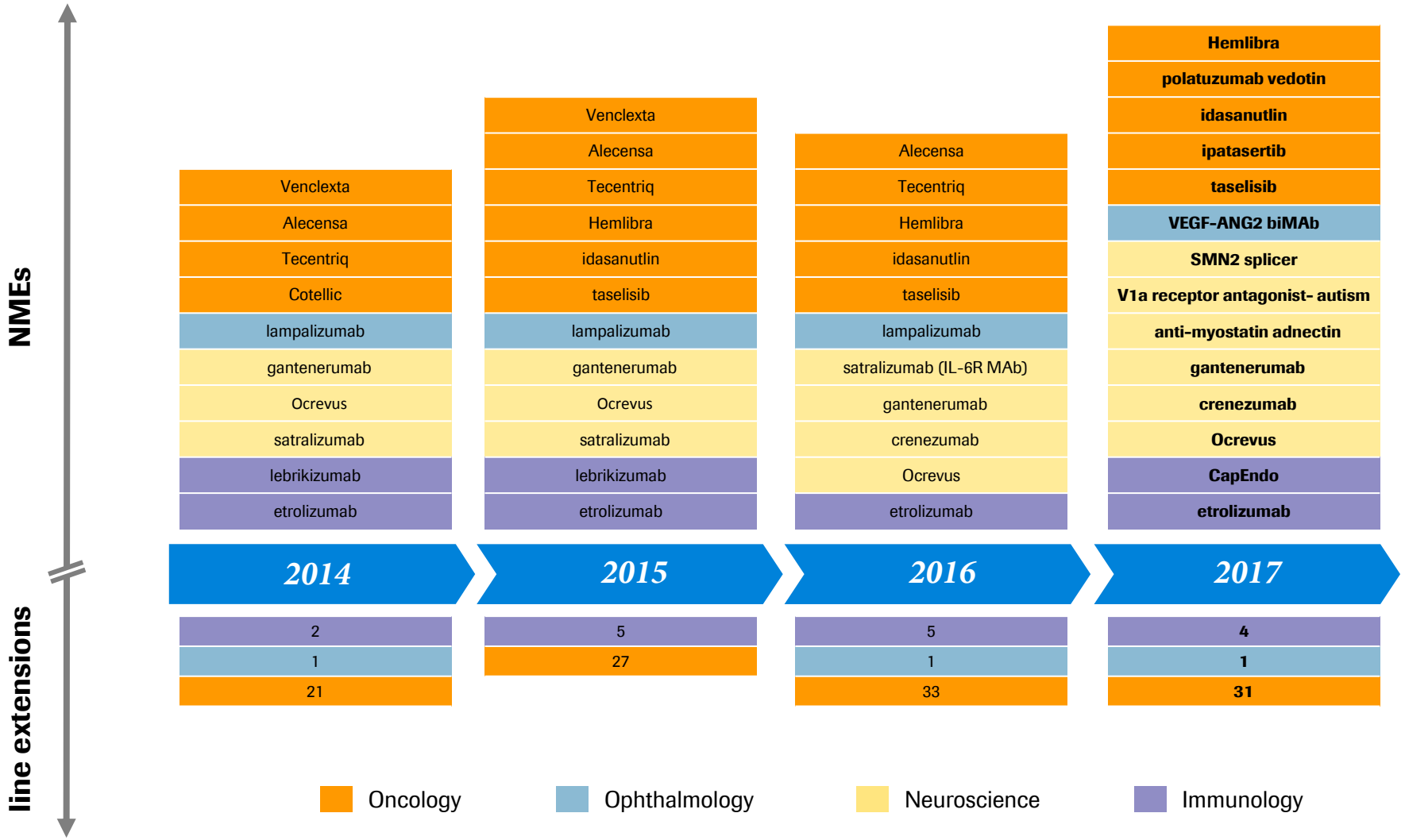


Payout ratio calculated as dividend per share divided by Core earnings per share (diluted); 2017 dividend as proposed by the Board of Directors;
Note: For 1995, a special dividend was paid out to mark F. Hoffmann-La Roche's 100th anniversary in 1996

2017 performance

Outlook

Record number of pipeline assets at pivotal stage



2018 outlook

Group sales growth[1]	• Stable to low-single digit
Core EPS growth[1]	• Broadly in line with sales, excl. US tax reform benefit • High-single digit, incl. US tax reform benefit
Dividend outlook	• Further increase dividend in Swiss francs

[1] At Constant Exchange Rates (CER)

Pharmaceuticals Division

Daniel O'Day
CEO Roche Pharmaceuticals

2017 results

Innovation

Outlook

2017: Pharma Division sales

Strong growth in US due to ongoing launches

	2017 CHFm	2016 CHFm	Change in % CHF	Change in % CER
Pharmaceuticals Division	**41,220**	**39,103**	**5**	**5**
United States	20,496	18,594	10	10
Europe	9,051	9,159	-1	-2
Japan	3,713	3,711	0	3
International	7,960	7,639	4	4

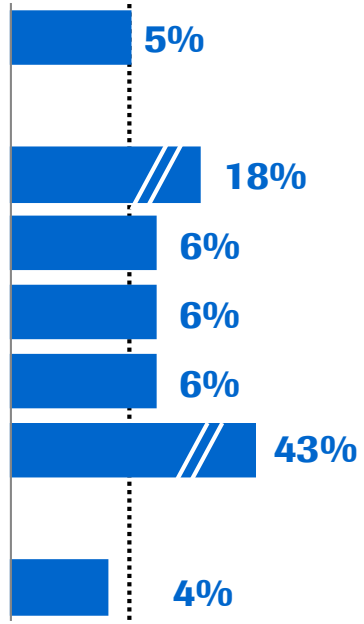
CER=Constant Exchange Rates

2017: Pharma Division

Core operating profit growth broadly in line with sales, supporting new launches

	2017 CHFm	2017 % sales
Sales	**41,220**	**100.0**
Royalties & other op. inc.	2,284	5.5
Cost of sales	-8,707	-21.1
M & D	-6,720	-16.3
R & D	-9,036	-21.9
G & A	-1,440	-3.5
Core operating profit	**17,601**	**42.7**

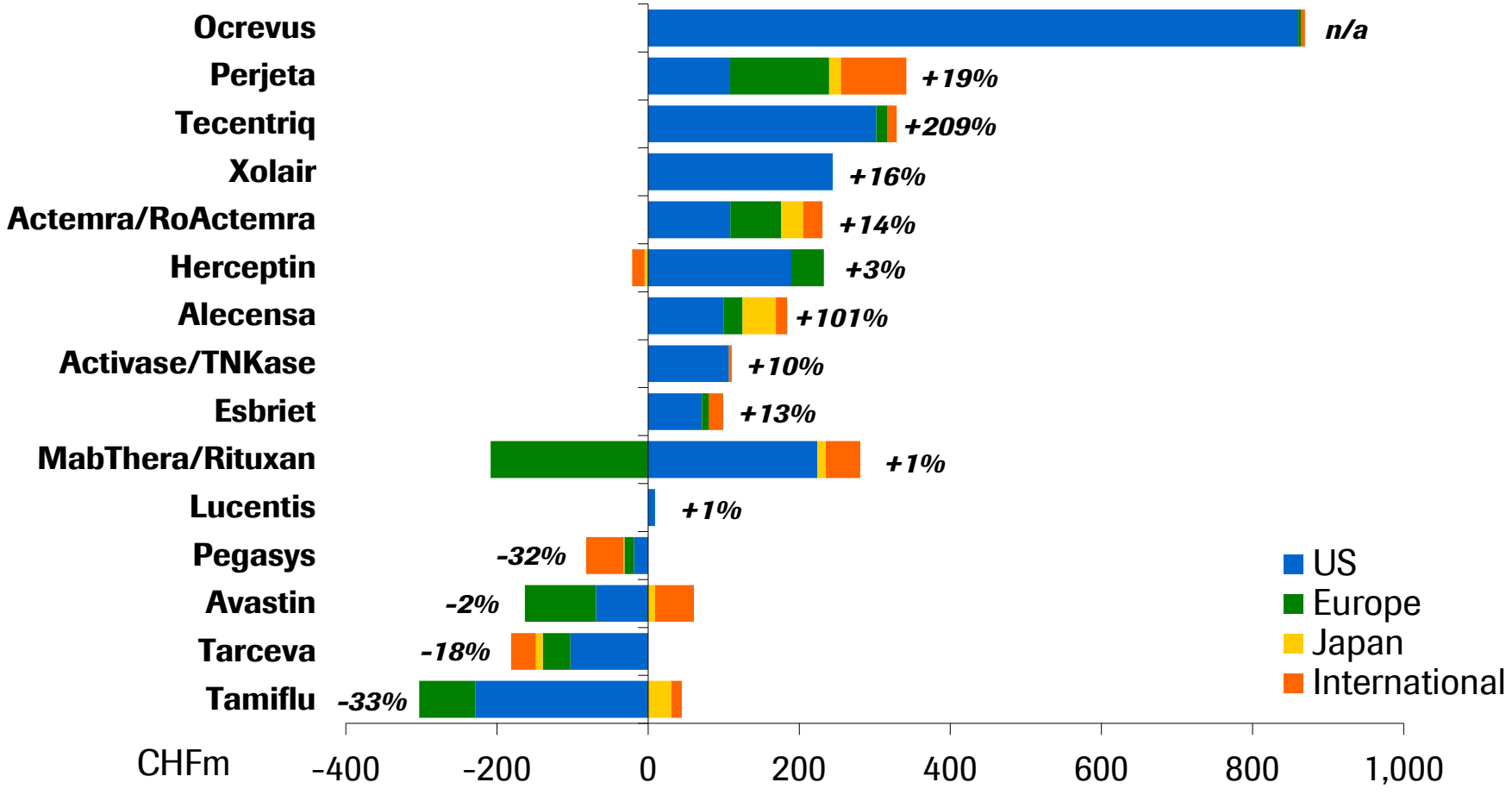
2017 vs. 2016
CER growth



+4% in CHF

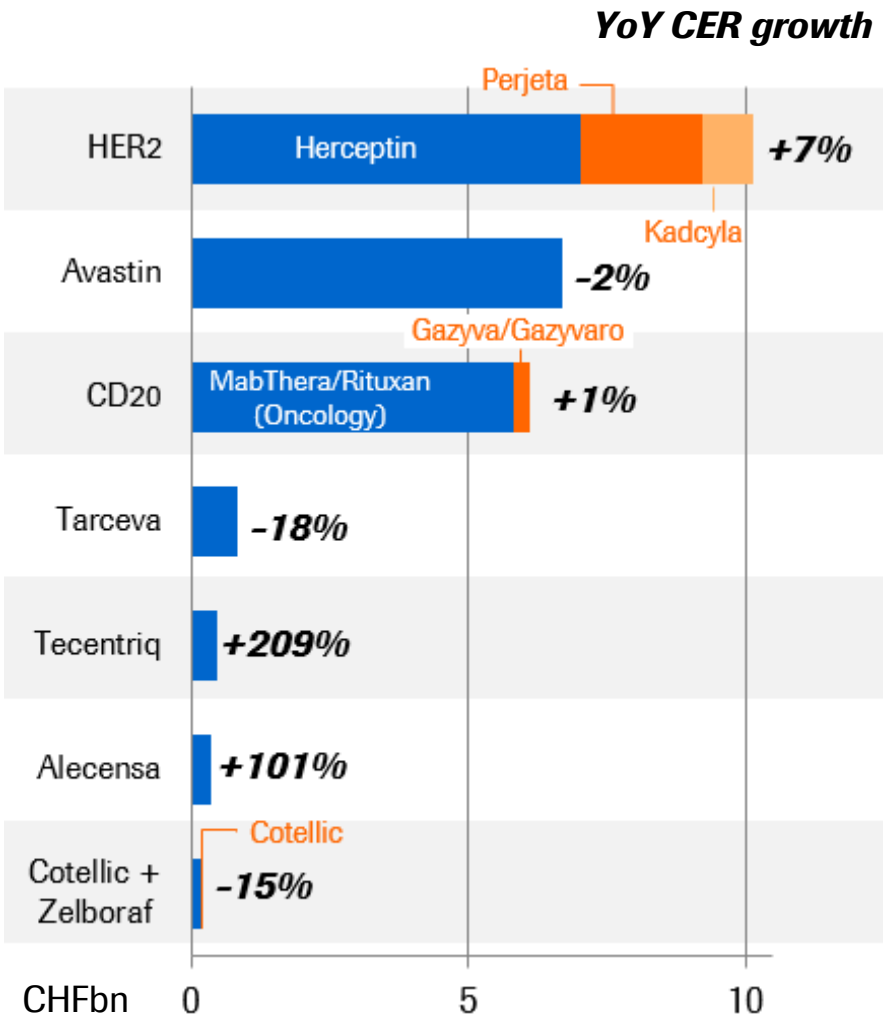
CER=Constant Exchange Rates

2017: Strong sales performance with increasing contribution from new launches



Absolute values and growth rates at Constant Exchange Rates (CER)

2017: Oncology portfolio rejuvenation ongoing



- Perjeta: Strong growth in all regions; Early APHINITY approval in the US achieved
- Kadcyla: Growth driven by International, US, and EU

- EU: Decline due to breast cancer reimbursement in France
- US: Lung cancer shares stabilizing after CIT entry in May

- US: Gazyva 1L FL approval achieved (priority review); key centers started adoption
- EU: Good initial uptake of Gazyva in 1L FL in the early launch countries

- Increased competition

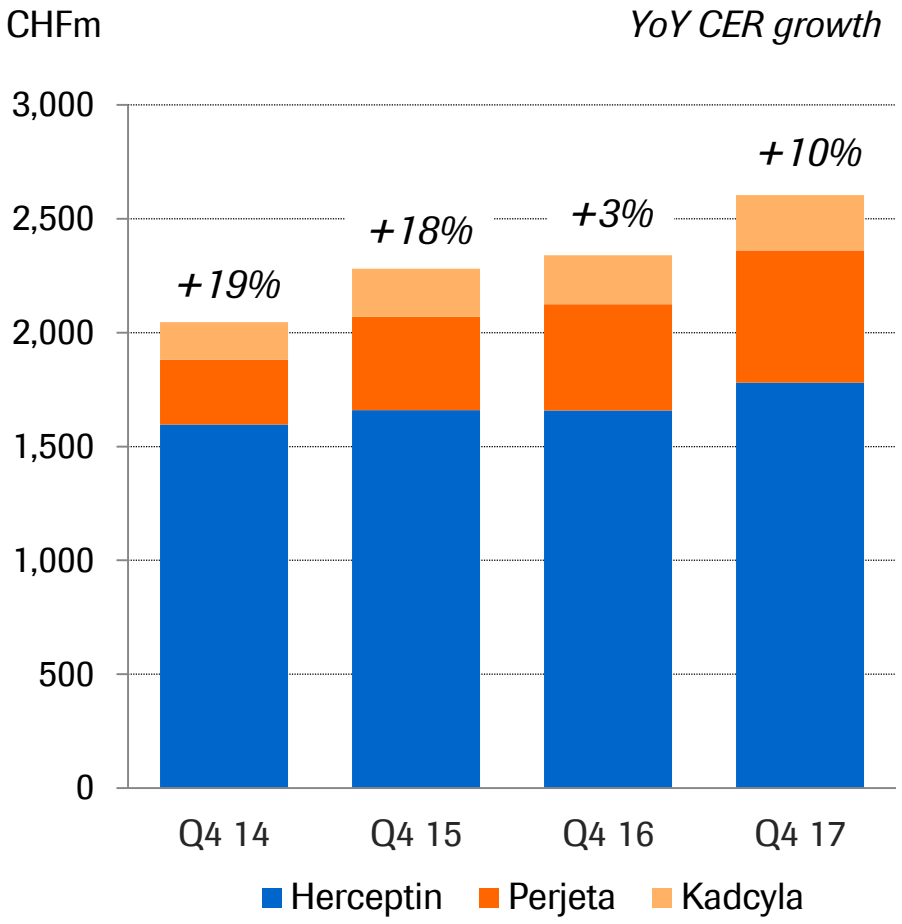
- US: Stable 2L lung cancer share; Increasing 1L cisplatin ineligible bladder share
- EU: Launch in lung (2/3L) and bladder (2L and 1L cisplatin ineligible) ongoing

- US: 2L market share approaching 70%
- US/EU: Early 1L approvals achieved; FDA approval for the FMI FoundationOne assay

- EU: Increasing competition from CIT

FY 2017 Oncology sales: CHF 25.7bn (CER growth +3%); All growth rates at Constant Exchange Rates (CER); CIT=cancer immunotherapy; FL=follicular lymphoma; FMI=Foundation Medicine

HER2 franchise: Growth driven by all products



HER2 franchise Q4 2017

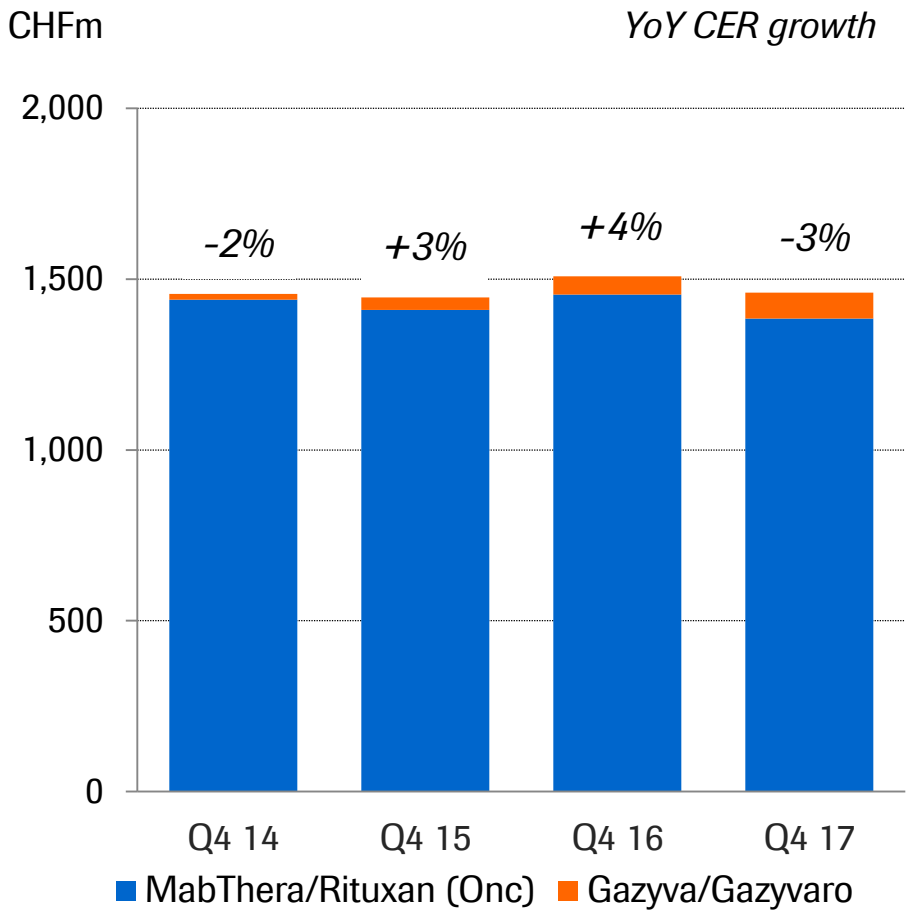
- Perjeta (+22%): Strong demand in neoadj. and 1L mBC driven by all regions; Accelerated growth in the US following approval in adjuvant BC (APHINITY)
- Kadcyla (+12%): Growth in International, US and EU

Outlook 2018

- US: Uptake of Perjeta + Herceptin in eBC following early APHINITY approval
- EU: Approval of APHINITY
- EU: Market entry of Herceptin biosimilars

CER=Constant Exchange Rates

CD20 franchise: Entering the transition phase in hematology



CD20 franchise Q4 2017

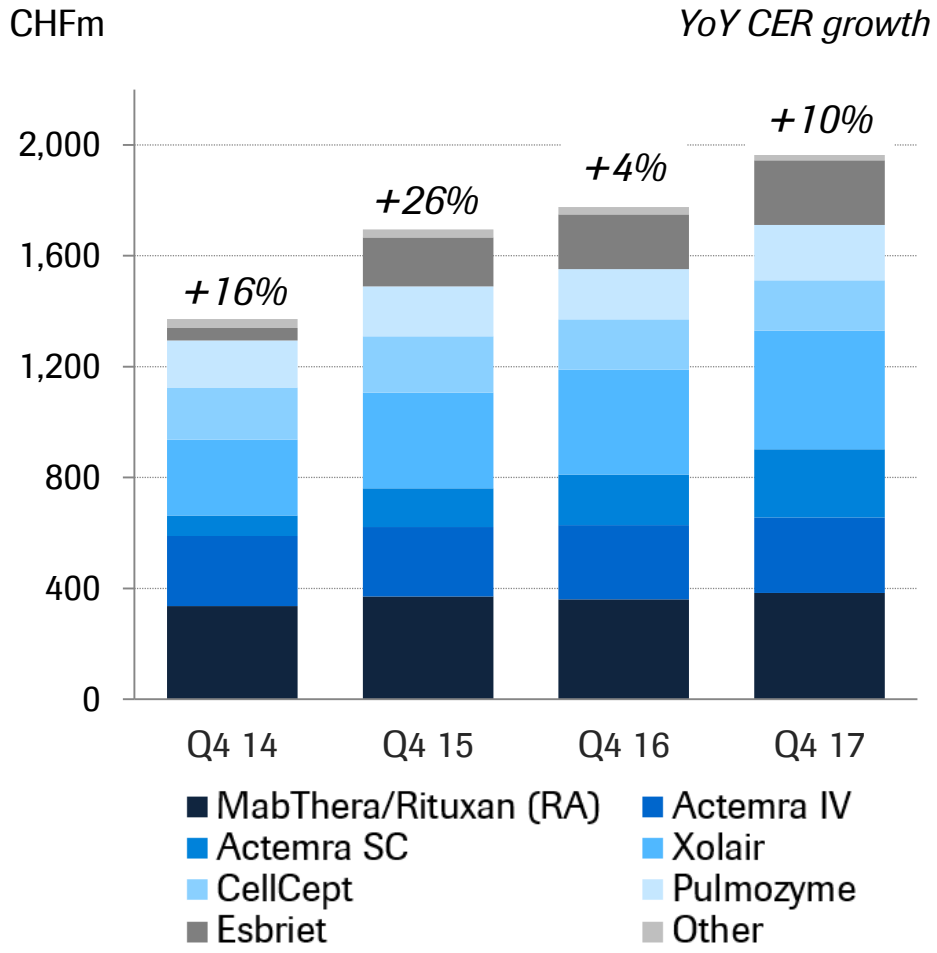
- MabThera/Rituxan (onc) US (+3%): Volume growth in all indications
- MabThera/Rituxan (onc) EU (-25%): Biosimilar launch in EU5 done; additional launches in smaller countries ongoing
- Gazyva/Gazyvaro (+42%): Positive early launch signals after 1L FL approvals in EU and US

Outlook 2018

- Overall CD20 franchise decline due to biosimilar erosion
- US/EU approval of Venclexta+Rituxan in R/R CLL (MURANO)

CER=Constant Exchange Rates; FL=follicular lymphoma; CLL=chronic lymphoid leukemia

Immunology: Annualized sales of around CHF 8bn



Immunology Q4 2017

Esbriet (+17%)

- Penetration in mild and moderate patient segment increasing, but slower than expected

Xolair (+15%)

- Asthma: US pediatrics launch ongoing; only biologic approved for children

Actemra (+14%)

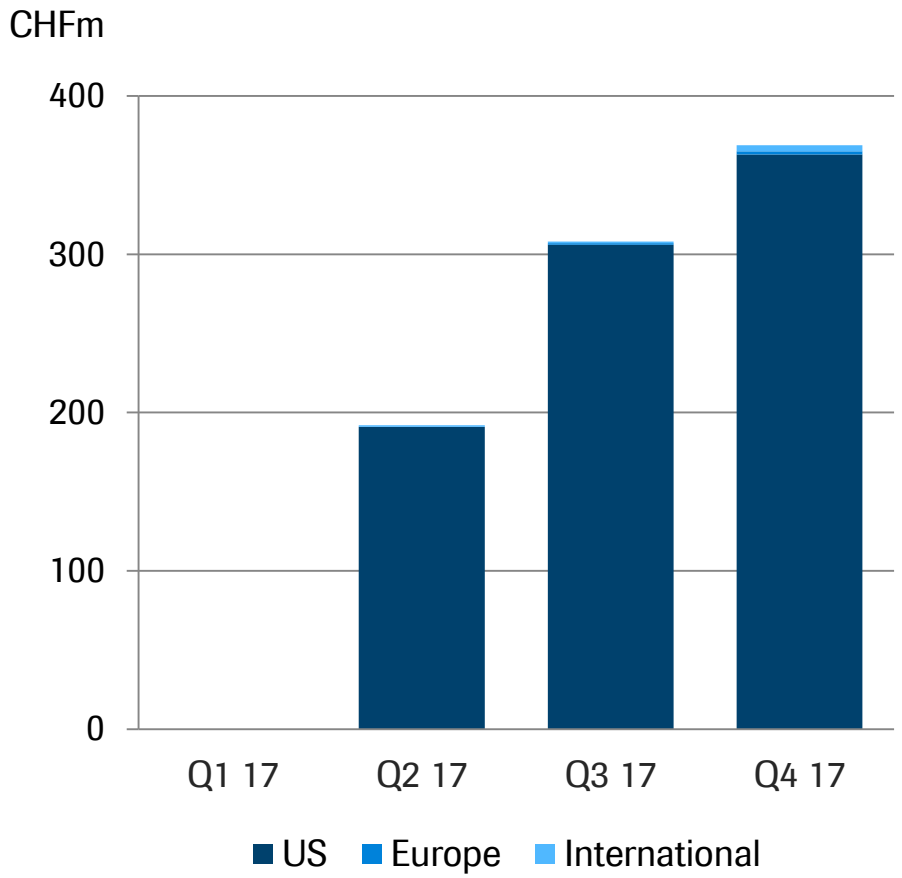
- Launch in giant cell arteritis ongoing
- Further increase in SC uptake

Outlook 2018

- Further strong growth expected with exception of MabThera/Rituxan

CER=Constant Exchange Rates; SC=subcutaneous

Ocrevus: >5% US market share after three quarters



Ocrevus Q4 2017

- First patients returned for second treatment
- Continued strong uptake in RMS and PPMS (60/40)
- RMS: 30% treatment naive/previously discontinued vs. 70% switches from all other approved medications
- Broad base of prescribers and further increased level of US insurance coverage

Outlook 2018

- Further increasing US market share with earlier use across both indications
- EU approval achieved with label in RMS and PPMS

RMS=relapsing forms of multiple sclerosis; PPMS=primary progressive multiple sclerosis

2017 results

Innovation

Outlook

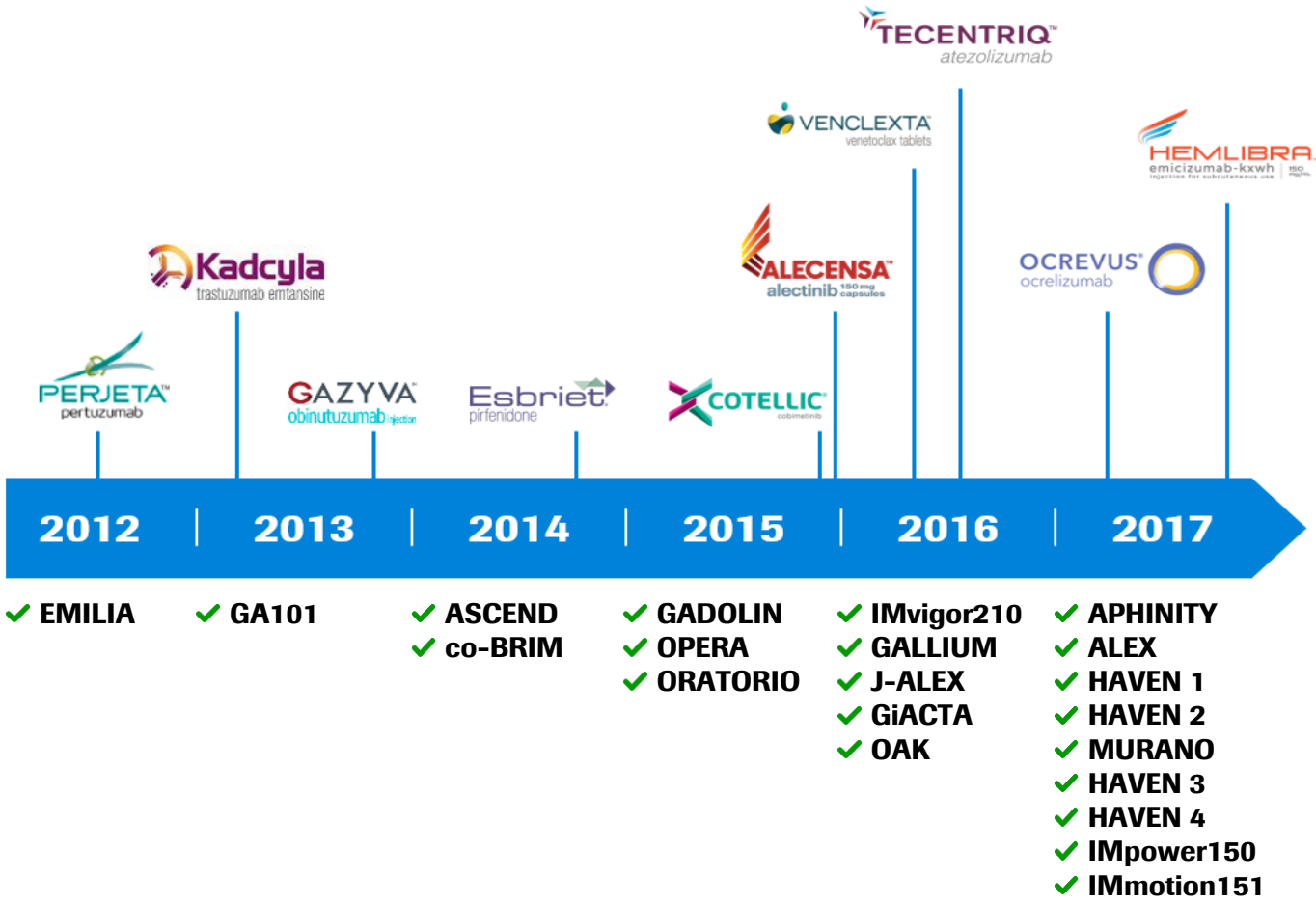
2017: Key late-stage news flow

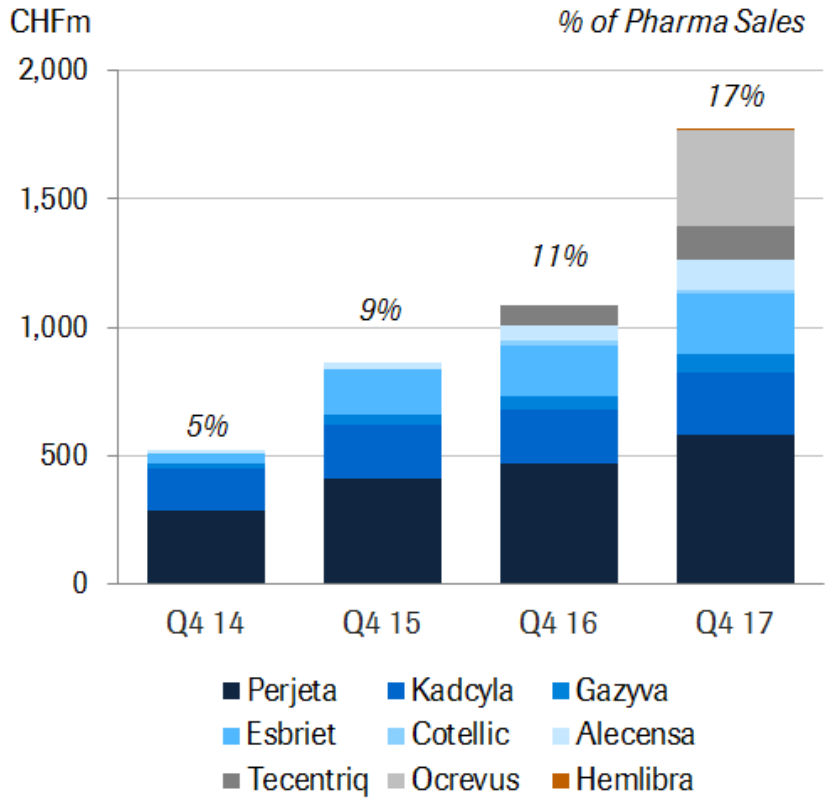
	Compound	Indication	Milestone	
Regulatory	**Alecensa**	2L ALK+ NSCLC	EU approval	✓
	Ocrevus	RMS / PPMS	US/EU launch	✓
	Tecentriq	1L cisplatin ineligible mUBC	US approval	✓
	Tecentriq	2/3L NSCLC and 1/2L mUBC	EU approval	✓
	Gazyva	1L FL (iNHL)	US/EU filing	✓
	Actemra	Giant cell arteritis	US/EU approval	✓
	Hemlibra	Hemophilia A inhibitors	US/EU filing	✓
Phase III readouts	**Perjeta + Herceptin**	Adjuvant HER2+ BC	Ph III APHINITY	✓
	Alecensa	1L ALK+ NSCLC	Ph III ALEX	✓
	Venclexta + Rituxan	R/R CLL	Ph III MURANO	✓
	Tecentriq + chemo/ Tecentriq + chemo + Avastin	1L NSCLC	Ph III IMpower150	✓
	lampalizumab	Geographic atrophy	Ph III SPECTRI/CHROMA	✗
	Hemlibra	Hemophilia A non-inhibitors	Ph III HAVEN 3	✓

Additional 2017 news flow:

- **Lucentis**: US approval in mCNV and diabetic retinopathy
- **Rituxan Hycela**: US approval for blood cancers
- **Hemlibra**: Positive Ph III interim results in pediatric inhibitors (HAVEN 2) and positive Ph III interim results in inhibitors/non-inhibitors every 4 weeks dosing (HAVEN 4)
- **Gazyva**: EU/US approval in 1L FL
- **Alecensa**: US/EU approval in 1L ALK+ NSCLC
- **Perjeta + Herceptin**: Early US approval in adjuvant HER2+ eBC (APHINITY)
- **Hemlibra**: Early US approval in inhibitors
- **Tecentriq + Avastin**: Positive Ph III results in 1L RCC (IMmotion151)

2017: Key new launches with annualized sales of >CHF 7bn





Update late-stage oncology pipeline

Lung: NSCLC, SCLC, ALK+NSCLC

2/3L	Tecentriq	**OAK**	✓
1L non-sq	Tecentriq+carbo/pac+/-Avastin	**IMpower150**	✓
1L non-sq	Tecentriq+carbo+nab-pac	**IMpower130**	
1L sq	Tecentriq+carbo+pac/nab-pac	**IMpower131**	
1L non-sq	Tecentriq+cis/carbo+pem	**IMpower132**	
1L Dx+	Tecentriq	**IMpower110**	
Adj	Tecentriq	**IMpower010**	
1L SCLC	Tecentriq+carbo+etoposide	**IMpower133**	
1L ALK+	Alecensa	**ALEX; J-ALEX**	✓

Melanoma

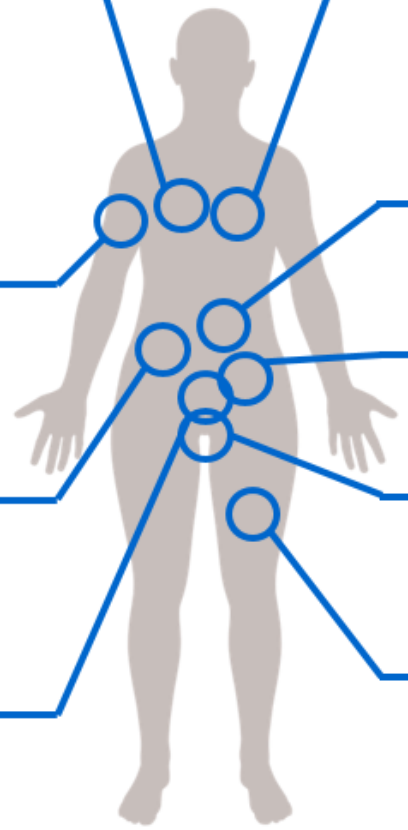
1L BRAFwt	Tecentriq+Cotellic	**IMspire170**
1L BRAFmut	Tecentriq+Cotellic+Zelboraf	**IMspire150 TRILOGY**

Renal

1L	Tecentriq+Avastin	**IMmotion151**	✓
Adj	Tecentriq	**IMmotion010**	

Bladder

1L/2L+	Tecentriq	**IMvigor210 C2**	✓
1L	Tecentriq	**IMvigor210 C1**	✓
2L+	Tecentriq	**IMvigor211**	✗
1L	Tecentriq+/-gem/plat	**IMvigor130**	
Adj MIBC	Tecentriq	**IMvigor010**	



✓ = **approved or positive read-out**

Breast: TNBC; HER2+; ER+/HER2-

1L TNBC	Tecentriq+nab-pac	**IMpassion130**	
1L TNBC	Tecentriq+pac	**IMpassion131**	
Neoadj TNBC	Tecentriq+nab-pac	**IMpassion031**	
Adj HER2+	Perjeta+Herceptin	**APHINITY**	✓
ER+/HER2-	taselisib+fulvestrant	**SANDPIPER**	
1L Dx+ TNBC	ipatasertib+paclitaxel	**IPATunity130 C1**	
1L Dx+ HR+ mBC	ipatasertib+paclitaxel	**IPATunity130 C2**	

Colorectal

3L	Tecentriq+Cotellic	**IMblaze370**

Ovarian

Front-line	Avastin/carbo/pac+/-Tecentriq	**IMaGYN050**

Prostate

1L CRPC	ipatasertib+abiraterone	**IPATENTIAL150**
2/3L CRPC	Tecentriq+enzalutamide	**IMbassador250**

Hematology: CLL, MM, AML

1L CLL	Venclexta*+Gazyva	**CLL14**	
R/R CLL	Venclexta*+Rituxan	**MURANO**	✓
R/R MM	Venclexta*+bortezomib/dexa	**BELLINI**	
R/R AML	idasanutlin+cytarabine	**MIRROS**	
1L AML	Venclexta*+azacitidine	**Viale-A**	
1L DLBCL	Polatuzumab+Rituxan-CHP	**POLARIX**	

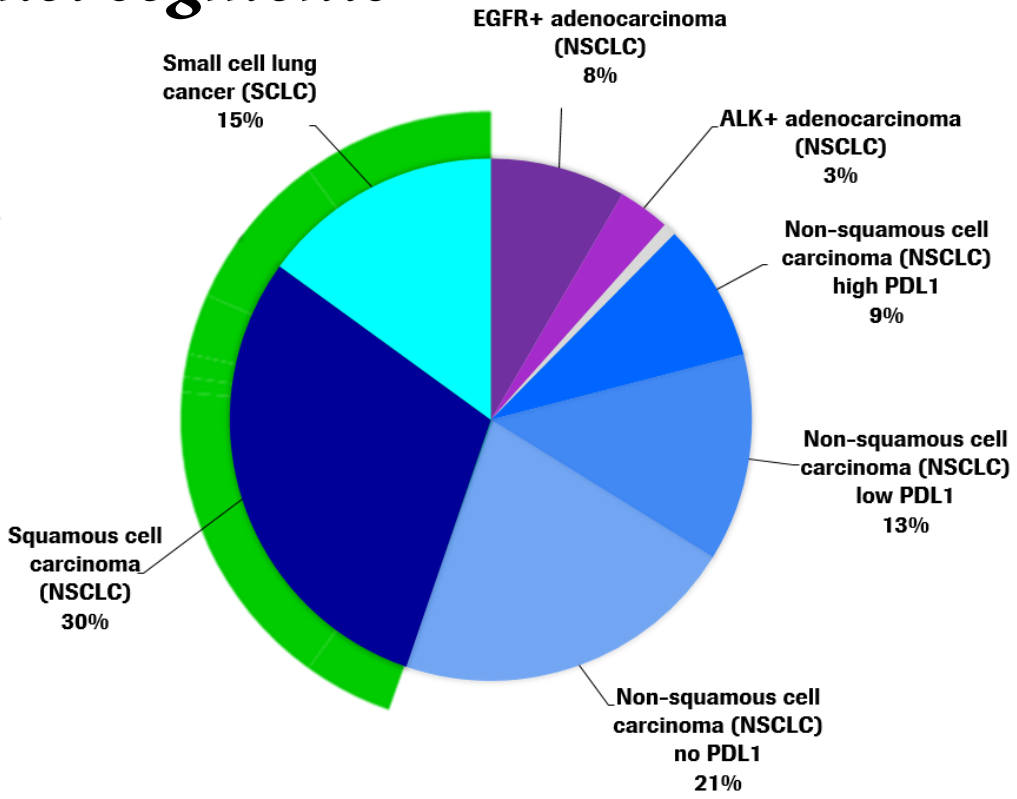
tba=to be announced; carbo=carboplatin; pac=paclitaxel; nab-pac=nab-paclitaxel (Abraxane); cis=cisplatin; pem=pemetrexed; gem=gemcitabine; plat=platinum; dexa=dexamethasone; *Venclexta in collaboration with AbbVie

CIT 1L lung cancer program reading out in H1 2018

Addressing all market segments

IMpower133[1]
(Tecentriq+cb+etoposide)
PFS/OS

IMpower131
(Tecentriq+cb+pac/nab-pac)
PFS/OS



IMpower150
(Tecentriq+cb/pac+/-Avastin) ✔ (PFS)
PFS/OS (H1 2018)

IMpower130
(Tecentriq+cb+nab-pac)
PFS/OS

IMpower132
(Tecentriq+cp/cb+pem)
PFS/OS

= Roche first-to-market with chemo combo

Tecentriq has the potential to be first-to-market chemo combo in 1L SCLC and 1L squamous NSCLC (45% of the total market)

Source: Datamonitor; incidence rates 7 major markets (US, Japan, France, Germany, Italy, Spain, UK); Note: Outcome studies are event driven, timelines may change; [1]IMpower133 in extensive stage SCLC; CIT=cancer immunotherapy; cb=carboplatin; pac=paclitaxel; nab-pac=nab-paclitaxel (Abraxane); cp=cisplatin; pem=pemetrexed

Tecentriq in 1L NSCLC

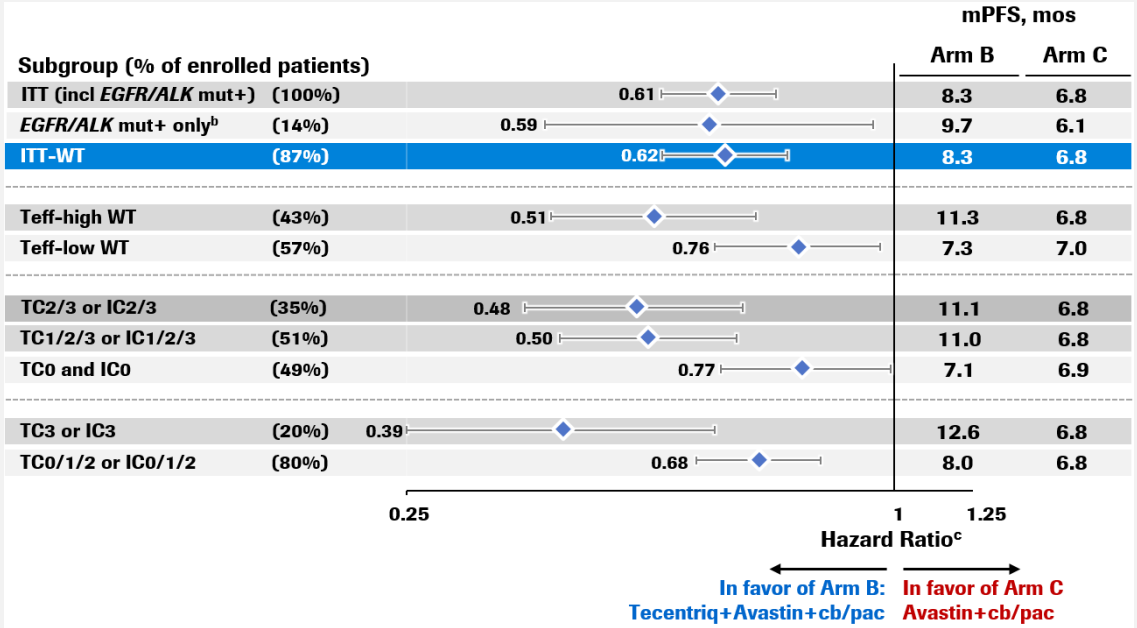
Positive interim results presented at ESMO IO

Ph III interim results (IMpower150)

	E4599[1]	IMpower150[2]	
	Avastin+cb/pac vs cb/pac	Tecentriq+Avastin+cb/pac vs Avastin+cb/pac (Arm B vs C)	
Patient population	1L AC	1L ITT-WT	1L T_{eff}-high WT
Patient number	N=878	N=692	N=284
ORR	35% vs. 15%	64% vs 48%	69% vs 54%
mOS (mos)	12.3 vs. 10.3 HR 0.79, p=0.003	19.2 vs 14.4 HR 0.775*, p=0.0262	--
mPFS (mos)	6.2 vs. 4.5 HR 0.66, p<0.001	8.3 vs 6.8 HR 0.617, p<0.0001	11.3 vs 6.8 HR 0.505, p<0.0001
Landmark PFS @ 1yr	18% vs 8.5%**	37% vs 18%	46% vs 18%

- Statistically significant and clinically meaningful PFS improvement
- OS has numerical improvement in Arm B vs C, but data are not fully matured. Next interim analysis for all arms in 1H 2018.

PFS Subgroup analysis



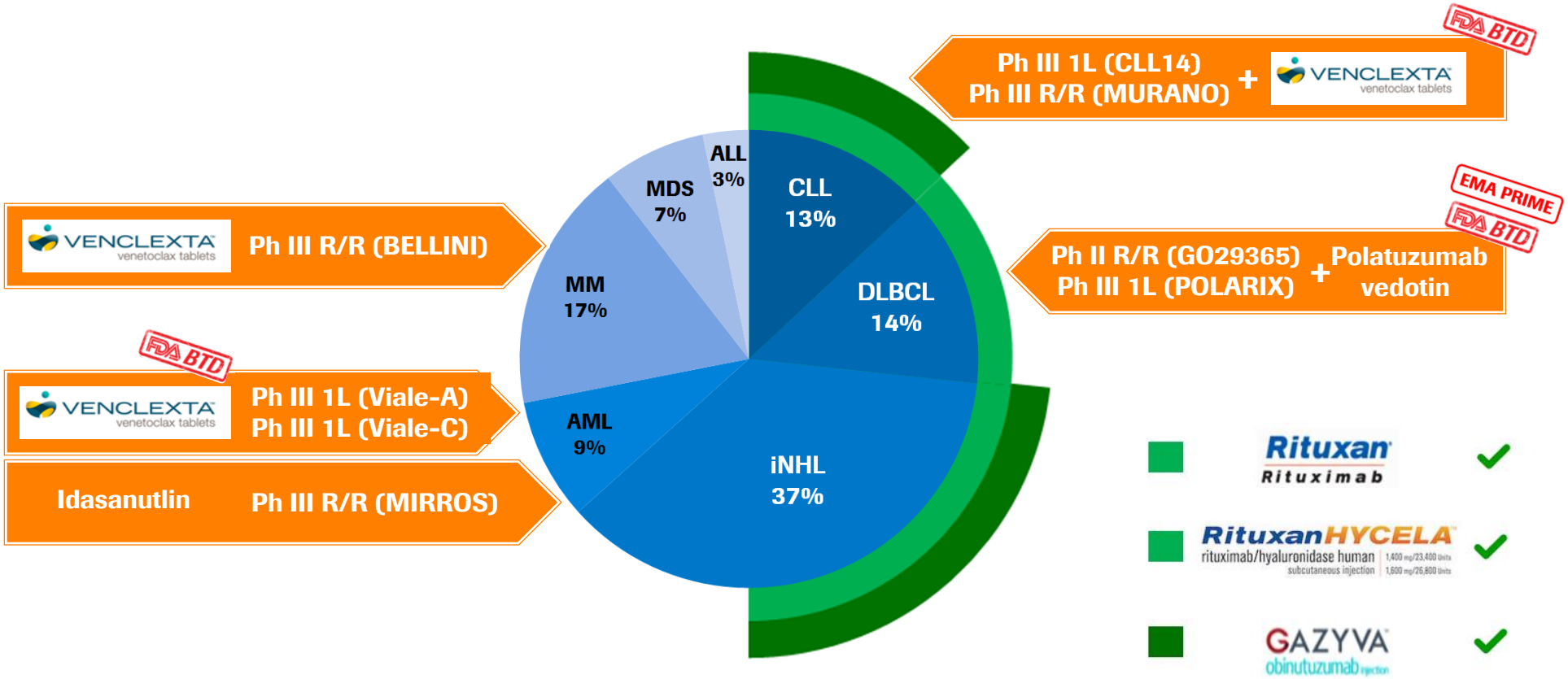
- PFS benefit (Arm B vs C) in key subgroups including patients with EGFR+ and ALK+ mutations, Teff low signatures, PDL1-negative tumors and liver metastases

[1] Sandler A, et al., NEJM 2006; [2] Reck M, et al., ESMO IO 2017; *OS data preliminary. Mature OS expected in H1 2018; **taken from KM curve; cb=carboplatin; pac=paclitaxel; AC=all-comers; ITT=intent-to-treat; WT=wild type; ORR=overall response rate; mOS=median overall survival; mPFS=median progression free survival; TC=tumor cells; IC=immune cells

Late-stage hematology: Improving the standard of care and extending into new indications

American Society of Hematology
Helping hematologists conquer blood diseases worldwide
Atlanta, Dec 8-12

Incidence rates (330,000 pts[1])



[1] Datamonitor; incidence rates includes the 7 major markets (US, Japan, France, Germany, Italy, Spain, UK); CLL=chronic lymphoid leukemia; DLBCL (aNHL)=diffuse large B-cell lymphoma; iNHL=indolent non-hodgkin`s lymphoma; AML=acute myeloid leukemia; MM=multiple myeloma; MDS=myelodysplastic syndrome; ALL=acute lymphoblastic leukemia; Venclexta in collaboration with AbbVie; Gazyva in collaboration with Biogen; Polatuzumab vedotin in collaboration with Seattle Genetics

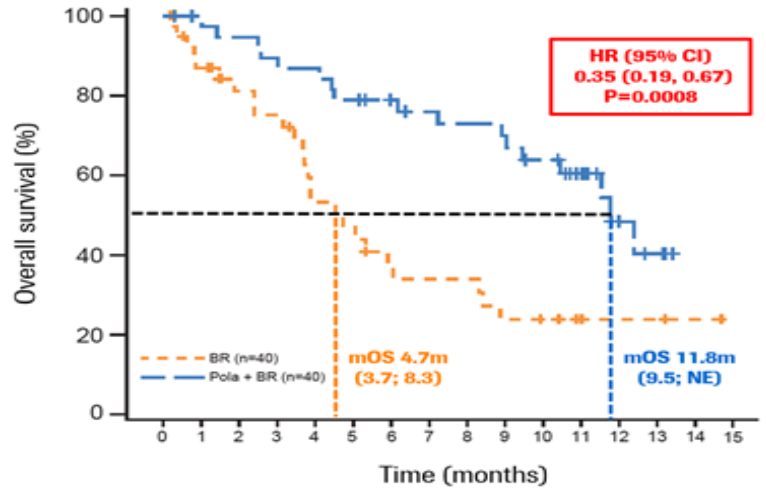
Polatuzumab vedotin and Venclexta
Shifting the standard of care in DLBCL and CLL

American Society of Hematology
Helping hematologists conquer blood diseases worldwide
Atlanta, Dec 8-12

Polatuzumab vedotin[1]
Phase II (GO29365) update in R/R DLBCL

Pola + bendamustine/Rituxan vs bendamustine/Rituxan

EMA PRIME
FDA BTD

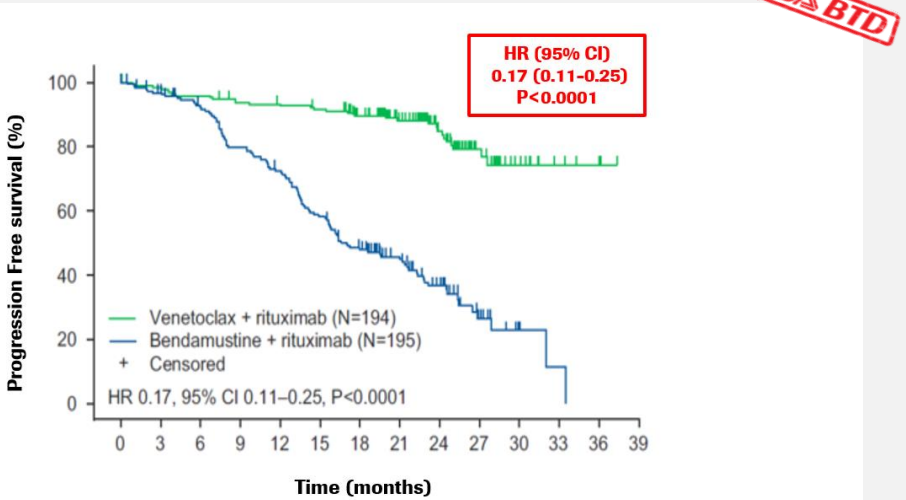


- Ph III study (POLARIX): Polatuzumab vedotin + Rituxan-CHP in 1L DLBCL achieved first-patient-in
- Polatuzumab vedotin could become potential foundational component in all regimes treating B-cell malignancies

Venclexta[2]
Phase III (MURANO) interim results in R/R CLL

Venclexta + Rituxan vs bendamustine/Rituxan

FDA BTD

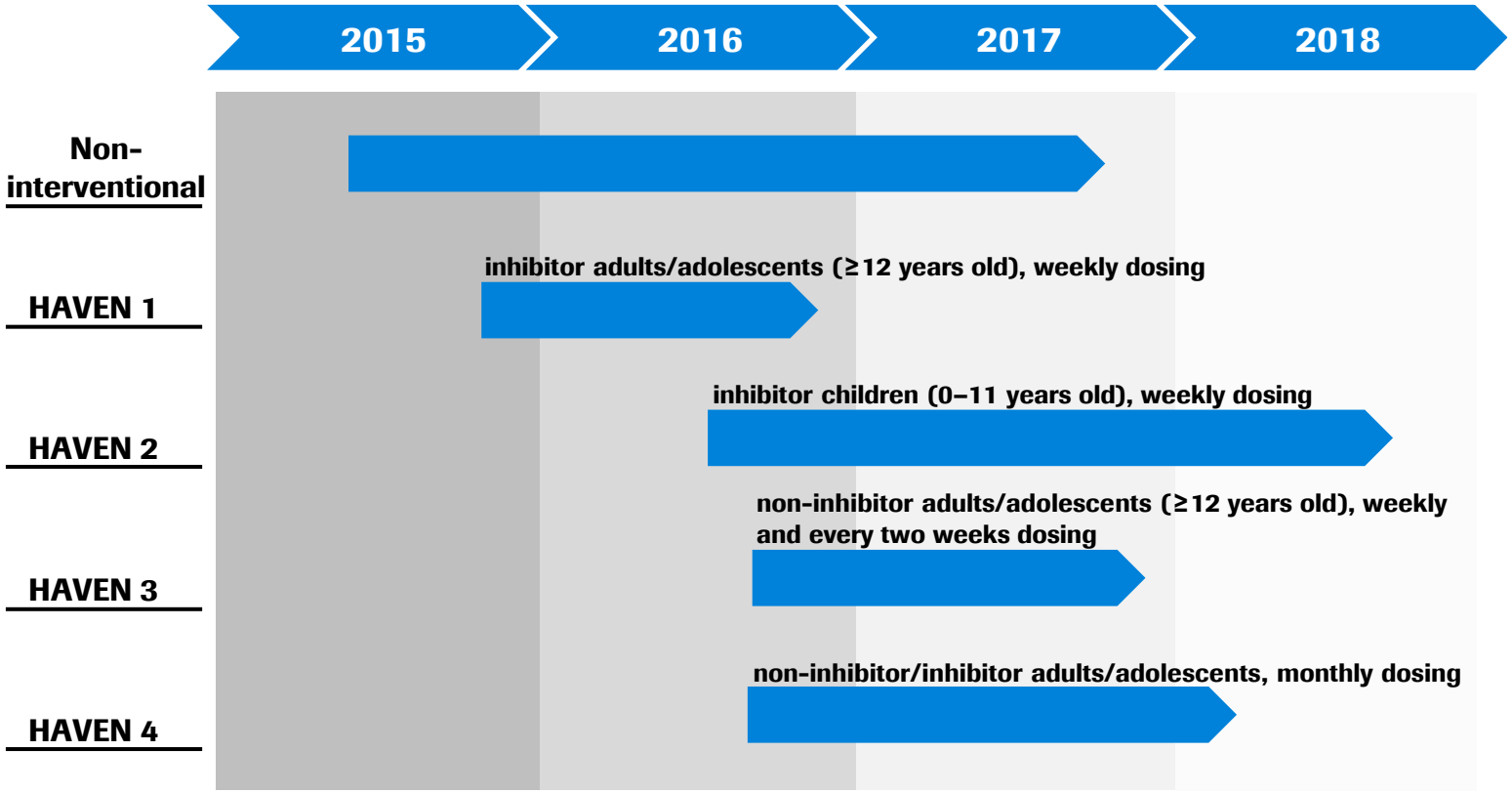


- MURANO data filed in US and EU
- Ongoing Ph III studies in 1L CLL (CLL14), 1L AML (Viale-A and Viale-C) and R/R MM (BELLINI)
- Potential early filing in 1L AML based on Ph1/2 results (with BTD)*

[1] Sehn L. H. *et al.*, ASH 2017; [2] Seymour J. *et al.*, ASH 2017; DLBCL=diffuse large B-cell lymphoma; CLL=chronic lymphoid leukemia; AML=acute myeloid leukemia; NHL=non-hodgkin`s lymphoma; MM=multiple myeloma; *as announced by partner AbbVie; Polatuzumab vedotin in collaboration with Seattle Genetics; Venclexta in collaboration with AbbVie

Hemlibra`s Ph III development nearing completion

HAVEN 1, 2 updates and HAVEN 4 run-in presented at ASH



- ✓ US approval in Q4
  EU positive CHMP opinion
- ✓ US approval in Q4
  EU positive CHMP opinion
- ✓ Positive results announced
- ✓ Positive interim results announced

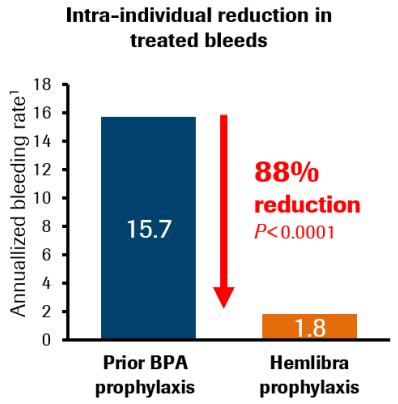
Hemlibra for inhibitor patients

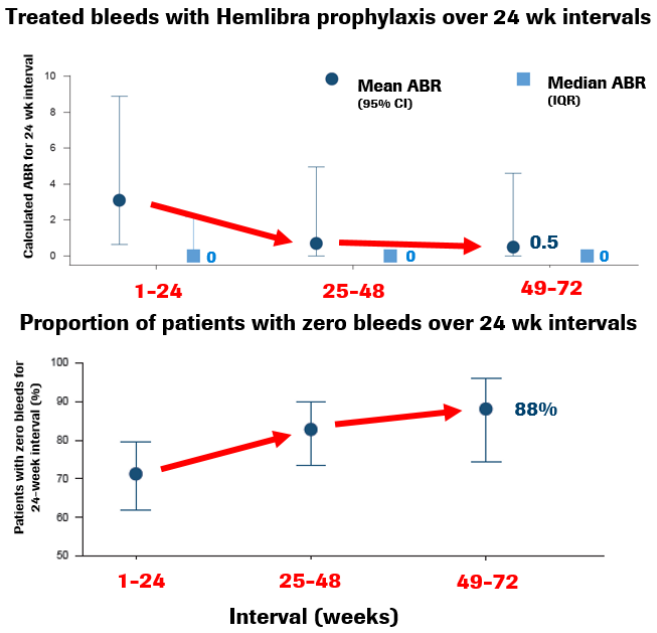
Inhibitor results keep improving over time

American Society of Hematology
Helping hematologists conquer blood diseases worldwide
Atlanta, Dec 8-12

Roche

Phase III update in adult inhibitors (HAVEN 1)





- HAVEN 1 results improved further over time
- 88% treated bleed reduction in the intra-patient analysis
- Share of patients with zero bleeds increased to 88% in weeks 49-72

Phase III update in pediatric inhibitors (HAVEN 2)

	% zero bleeds (95% CI) N=57*	% zero bleeds (95% CI) N=23**	ABR*** (95% CI) N=23**	Median ABR (IQR) N=23**
Treated bleeds	**94.7** (85.4; 98.9)	**87.0** (66.4; 97.2)	**0.2** (0.06; 0.62)	**0.0** (0.00; 0.00)
All bleeds	**64.9** (51.1; 77.1)	**34.8** (16.4; 57.3)	**2.9** (1.75; 4.94)	**1.5** (0.00; 4.53)
Treated spontaneous bleeds	**98.2** (90.6; 100.0)	**95.7** (78.1; 99.9)	**0.1** (0.01; 0.47)	**0.0** (0.00; 0.00)
Treated joint bleeds	**98.2** (90.6; 100.0)	**95.7** (78.1; 99.9)	**0.1** (0.01; 0.47)	**0.0** (0.00; 0.00)

- 40 additional patients and ~ 6 months of additional follow-up confirm earlier analysis
- 94.7% of children on Hemlibra prophylaxis with zero treated bleeds

Mancuso M.E. *et al.,* ASH 2017; Young G. et al., ASH 2017; ABR=Annualized Bleeding Rate, BPA=Bypassing agent; IQR=interquartile range; *Aged <12 years; **Primary efficacy results (ABR analysis) based only on patients aged < 12 yrs on study for ≥12 wks; ***Negative binomial regression model

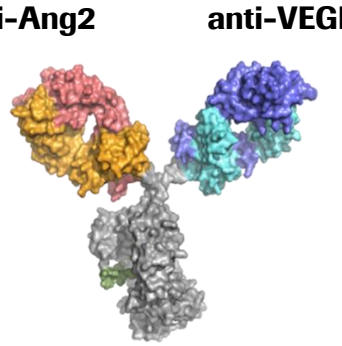
Anti-VEGF/Ang2 biMAb in DME

Ph II results (BOULEVARD) to be presented

IR conference call February 13

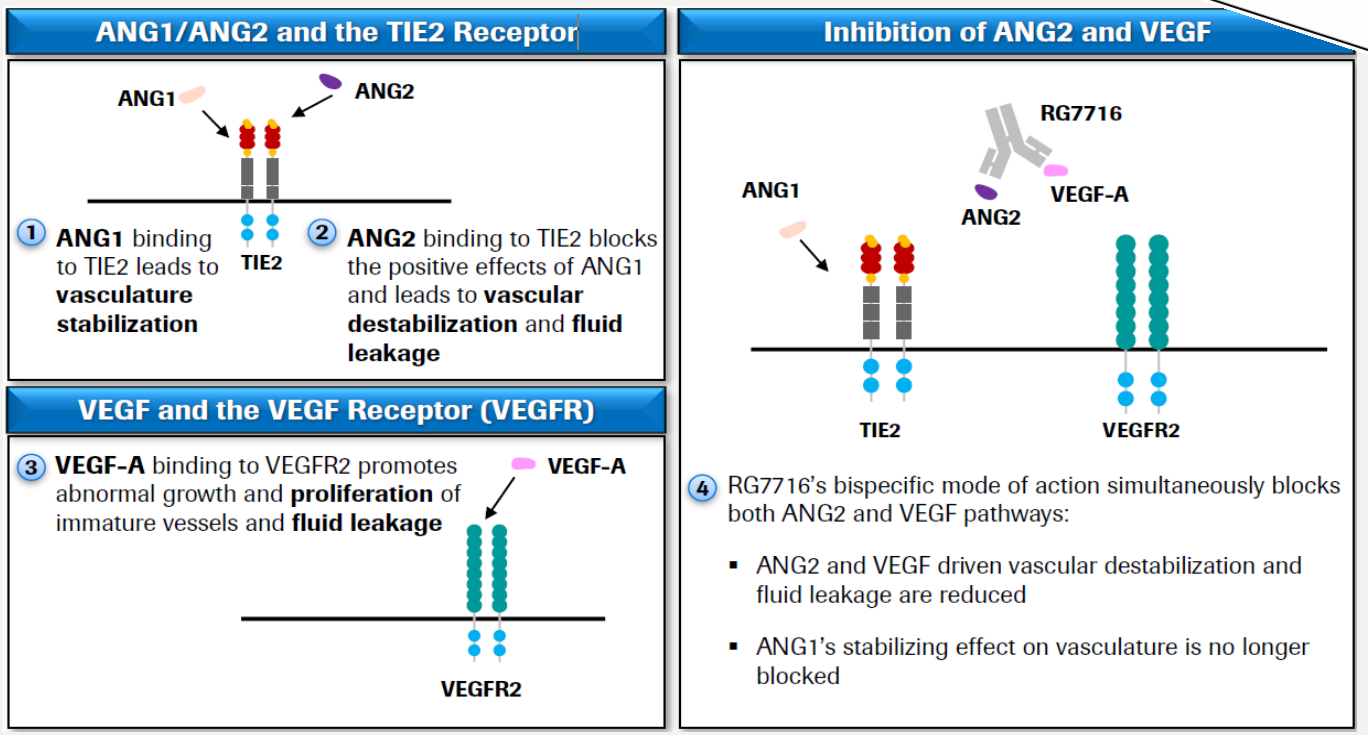
Angiogenesis, Exudation, and Degeneration 2018
February 10, 2018
Miami, FL

Anti-VEGF/Ang2 biMAb



- First bispecific antibody in ophthalmology binding to VEGF and Angiopoetin2 (Ang2)
- Engineered Fc for improved pharmacokinetics and faster systemic clearance

Scientific rationale in DME



- Characteristic DME pathology is retinal microvascular inflammation, ischemia, and breakdown of the blood-retinal barrier, resulting in leakage of fluid into the retina and vision loss
- Ang2 inhibition could improve blood-retinal barrier stability and reduce retinal vascular inflammation, contributing to an improved therapeutic benefit

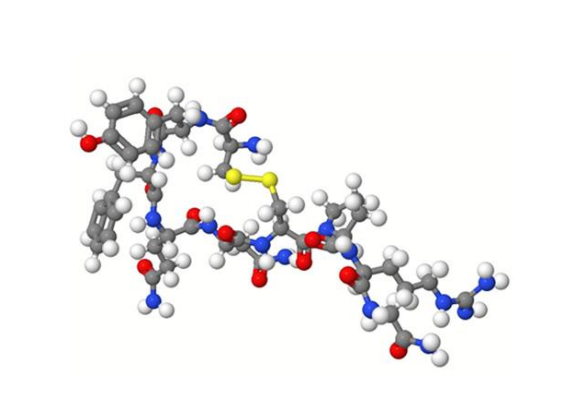
DME=diabetic macular edema

Autism: V1a receptor antagonist (balovaptan)

Early data from first Ph II study in adults

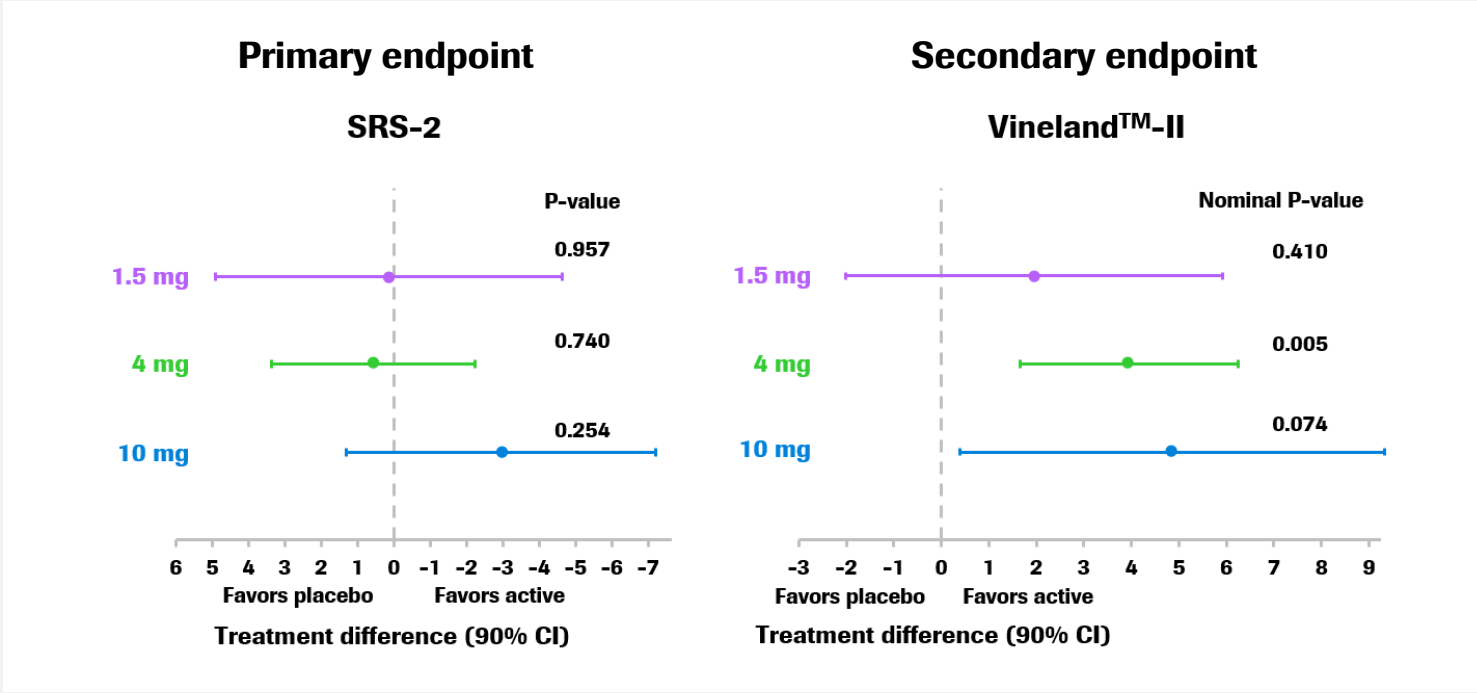
FDA BTD

V1a receptor antagonist



- Vasopressin (V)1a receptor modulates social behavior and is implicated in ASD
- Efficacy observed in environmental and genetic rodent models of autism
- Orally available, selective V1a receptor antagonist
- Good pharmacokinetic profile and well tolerated in Ph I and II studies

Phase II (VANILLA) results:



- Primary EP (SRS-2) not met; however main secondary EP (Vineland™-II) met
- Vineland™-II selected and agreed upon with health authorities as primary endpoint in future studies

Bolognani F. et al., IMFAR 2017; ASD=autism spectrum disorder; SRS-2=social responsiveness scale-2; Vineland™-II=Vineland Adaptive Behavior Scale 2nd Edition

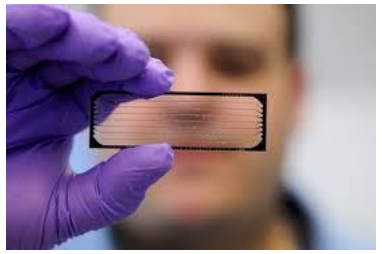
Ignyta`s entrectinib (pan-TRK/ROS1 inhibitor) fits our strategy*

Targeting mutations across different solid tumor types

EMA PRIME

FDA BTD

Identify patients with targeted mutations

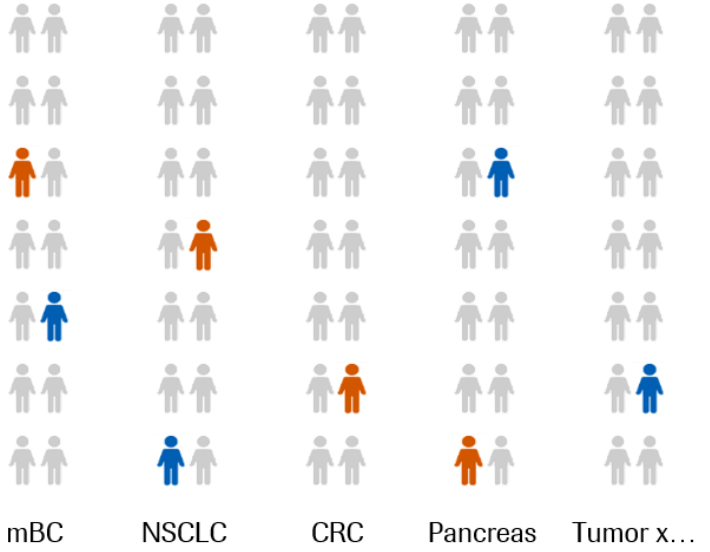


FOUNDATIONONE™

FOUNDATION MEDICINE®

Roche Diagnostics

Entrectinib: Treat selected patients across different tumors



FoundationOne & Roche Diagnostics support identification of rare tumor mutations

[1] NTRK 1,2,3=Neurotropic Tropomyosin Receptor Kinase 1, 2, 3; ROS1=c-ros oncogene 1

[2] US+EU5 Prevalence: ROS1 in solid tumors ~6000 patients and NTRK in solid tumors ~8000 patients (both mutations have prevalence of 0.5 – 1.5% in most solid tumors; 80% in MASC)

* The acquisition of Ignyta Inc. by Roche Holdings Inc. is pending and is subject to customary closing conditions. The closing of the transaction is expected to take place in the first half of 2018.

2017 results

Innovation

Outlook

2018: Key late-stage news flow*

	Compound	Indication	Milestone
Regulatory	**Ocrevus**	RMS / PPMS	EU approval ✓
	Perjeta + Herceptin	Adjuvant HER2+ eBC	EU approval
	Tecentriq + cb/pac +/- Avastin	1L non-sq NSCLC	US/EU filing
	Tecentriq + Avastin	1L RCC	US/EU filing
	Hemlibra	Hemophilia A inhibitors	EU approval
	Hemlibra	Hemophilia A non-inhibitors	US/EU filing
	Hemlibra	Every 4 weeks dosing inhibitors/non-inhibitors	US/EU filing
	baloxavir marboxil (CAP endonuclease inhibitor)	Influenza	US filing initiation
	Venclexta + Rituxan	R/R CLL	US/EU approval
Phase III readouts	**Tecentriq + chemo**	1L lung program	Ph III IMpower130/131/132/133
	Tecentriq + nab-pac	1L TNBC	Ph III IMpassion130
	Tecentriq + Cotellic	2/3L CRC	Ph III IMblaze370 / COTEZO
	Actemra	Systemic sclerosis	Ph III focuSSced

* Outcome studies are event-driven: timelines may change

Diagnostics Division

Roland Diggelmann
CEO Roche Diagnostics

2017: Diagnostics Division sales

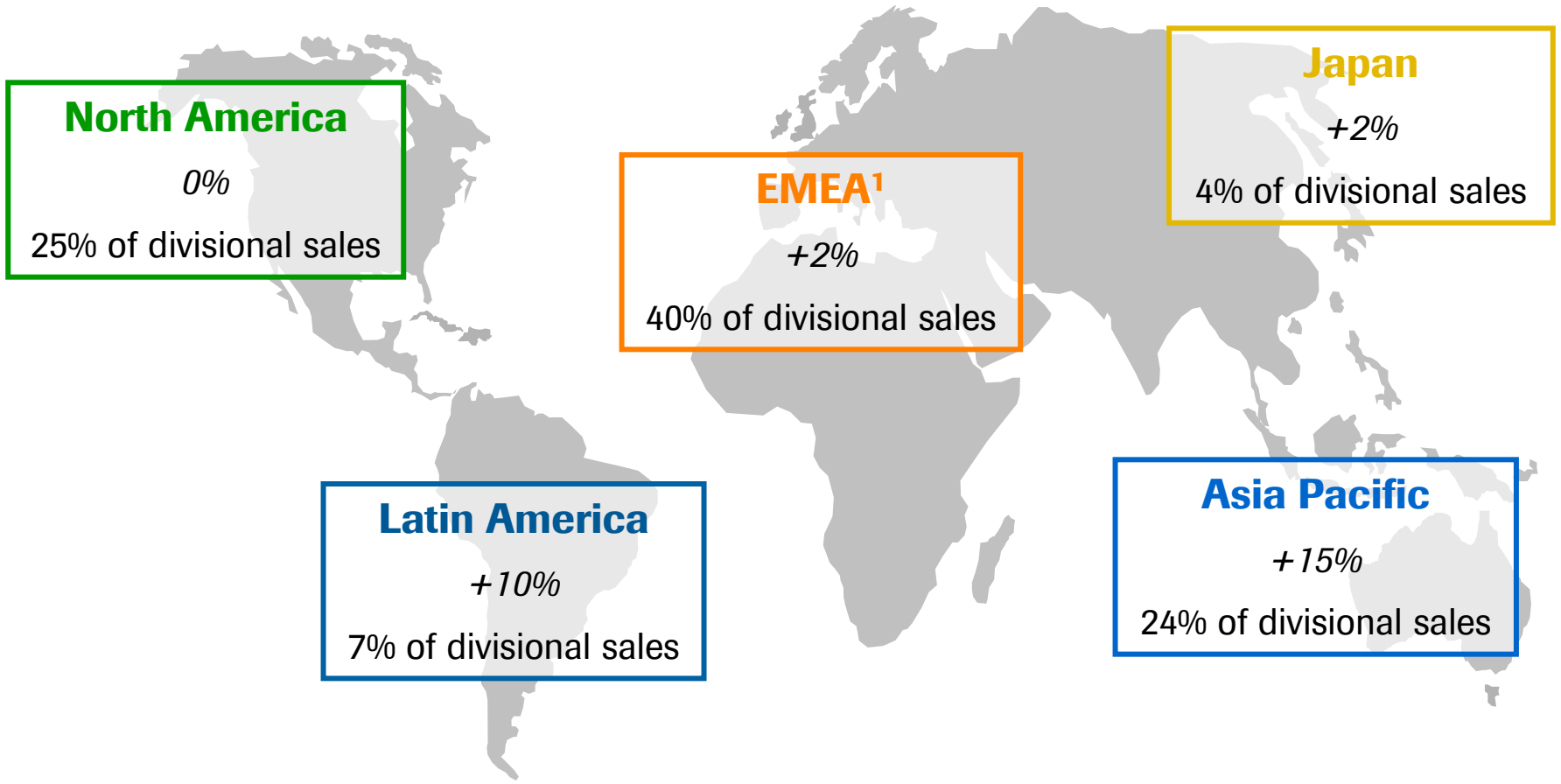
Growth driven by CPS & Tissue Diagnostics

	2017 CHFm	2016 CHFm	Change in % CHF	Change in % CER
Diagnostics Division	**12,079**	**11,473**	**5**	**5**
Centralised and Point of Care Solutions	7,179	6,698	7	7
Diabetes Care	1,965	2,016	-3	-4
Molecular Diagnostics	1,920	1,845	4	4
Tissue Diagnostics	1,015	914	11	11

CER=Constant Exchange Rates
Underlying growth of Molecular Diagnostics excluding sequencing business: +4%

2017: Diagnostics Division regional sales

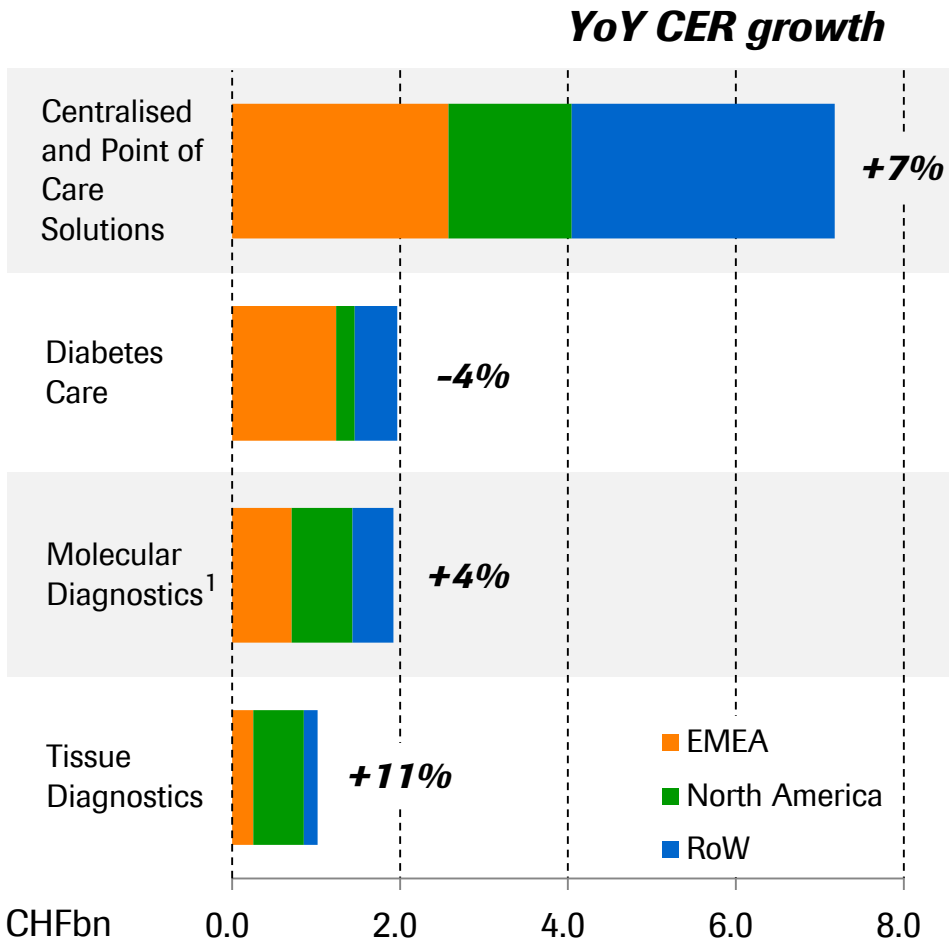
Strong growth in emerging markets



+17% growth in E7 countries[2]

[1] Europe, Middle East and Africa; [2] Brazil, China, India, Mexico, Russia, South Korea, Turkey
All growth rates at Constant Exchange Rates

2017: Diagnostics Division highlights
Growth driven by Immunodiagnostics



- Driven by immunodiagnostics (+13%); clinical chemistry (+3%)
- Continued US pricing and reimbursement pressures
- Virology (0%), HPV (+15%); MD Sys (+10%)
- Advanced staining portfolio (+11%); primary staining (+12%) and companion diagnostics (+13%)

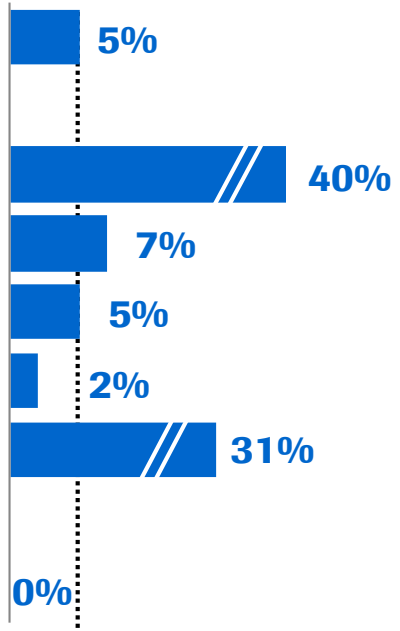
[1] Underlying growth of Molecular Diagnostics excluding sequencing business: +4%
CER=Constant Exchange Rates; EMEA=Europe, Middle East and Africa

2017: Diagnostics Division

Core operating profit growth excl. PSI +4%

	2017 CHFm	2017 % sales
Sales	**12,079**	**100.0**
Royalties & other op. inc.	163	1.3
Cost of sales	-5,659	-46.8
M & D	-2,792	-23.1
R & D	-1,356	-11.2
G & A	-526	-4.4
Core operating profit	**1,909**	**15.8**

2017 vs. 2016
CER growth



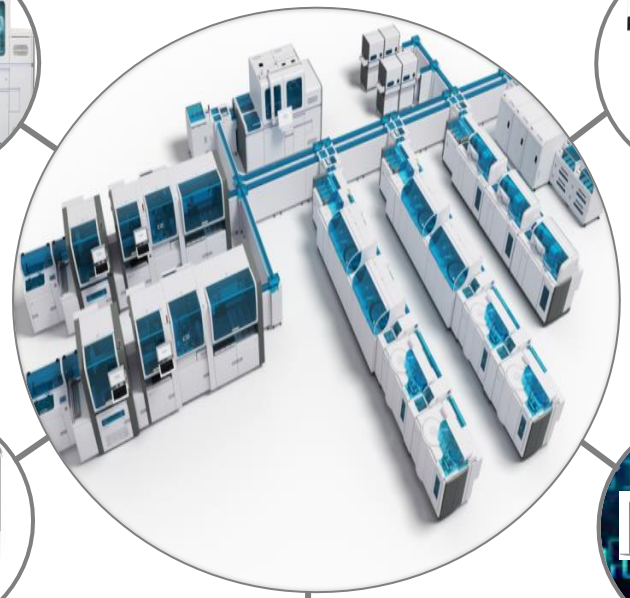
-1% in CHF

CER=Constant Exchange Rates; PSI=Past Service Income 2016

Implementing the fully integrated core laboratory

Connecting disciplines
(cobas 6800/8800, cobas 6500, cobas p 612)

Highest throughput analysers
(cobas e 801, cobas c 702)



Comprehensive menu
(Procalcitonin; Zika; MPX; Syphilis)

Digitalised data management (Navify tumor board)

Seamless workflow and laboratory IT
(CCM High Speed)

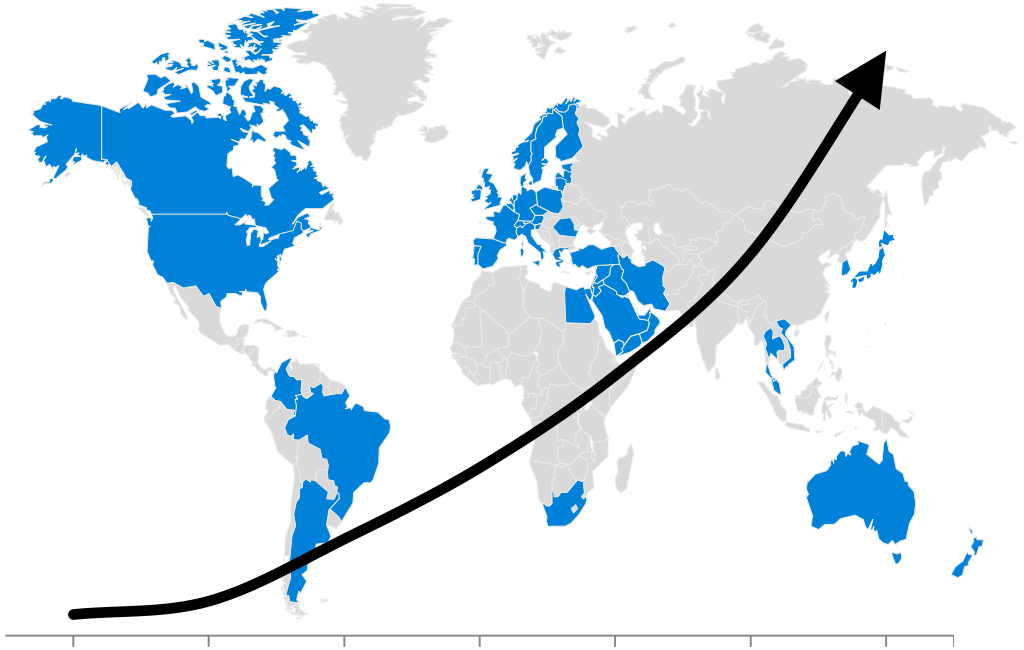
Immunodiagnostics: 32% of sales, growing +13%

Strong uptake and market expansion of cobas e 801

Launch Excellence

- June 16: launch in CE mark countries
- Apr 17: US launch
- Complete menu of 96 parameters available in CE mark countries

Units since launch ~900*



*Actual installed capacity base since launch June 2016

Launch of cobas t 511 / t 711

First cassette-based laboratory coagulation analysers

cobas t 711 analyser*

- First customer monitoring with 10 assays
- Automatization reduces errors and increases walkaway capacity
- Maximized test capacity (up to 34200 tests on board)

*__cobas t__ 711 analyser is anticipated to be fully integrated into the SWA workflow by Q4 2018

Acquisition of Viewics, Inc.

Data-driven business analytics and digital capabilities for the laboratory

- Complements and expands our portfolio with business analytics
- Supports our customers in improving their lab performance and processes
- Proprietary big data extraction and cleansing integration technology
- HIPAA* certified massively scalable platform

*HIPPA: Health Insurance Portability and Accountability Act

Bridging advanced analytics to provide clinical decision support solutions for patients and physicians

In-vitro data

Roche

Biomarkers
Tissue pathology
Genomics & sequencing

Digital platform & analytics

Combined patient records
Real-time data
Best practices
Research outcomes

Workflow solutions + apps
Speed, accuracy, confidence

Clinical decision support
Speed, accuracy, confidence

Data driven patient care
Early diagnosis
Early intervention
Individualised treatment

In-vivo data

Medical imaging
Patient monitoring

Combine in-vitro and in-vivo expertise – complementary strategic partnership

Key launches 2017: All targets achieved

	Area	Product	Market
Instruments/ Devices	**Central Laboratory**	cobas 8000 <e 801> – High throughput immunochemistry analyser CCM High Speed – cobas connection module (CCM) for up to 6000 samples/hour	US ✓ WW ✓
	Coagulation Testing	cobas t 511 / t 711 – Medium and high volume coagulation systems	EU ✓
	Point of Care	CoaguChek Vantus – Hand-held coagulation monitoring system for Patient Self-Testing	US ✓
	Diabetes Care	Accu-Chek Instant bG System – Effortless, accurate and affordable bG system for price sensitive markets	EU ✓
Tests/ Assays	**HPV**	cobas HPV – Next generation HPV DNA test leveraging 68/8800 Automation to detect 14 hrHPV with simultaneous detection of genotypes 16 and 18 CINtec Histology – Diagnostic component of the Roche Cervical Cancer portfolio	EU ✓ US ✓
	Virology	cobas HIV 1&2 Qual – For use on the cobas 6800/8800 Systems; for diagnosis of acute HIV 1 or 2 infection and for confirmation of HIV 1 or 2 infection	EU ✓
	Sequencing	AVENIO ctDNA panels - Liquid biopsy for circulating tumor DNA, 3 panels: targeted panel (17 genes for cancer therapy selection), expanded panel (77 genes for cancer therapy selection), surveillance panel (197 genes)	EU/US ✓
	cobas Liat	cobas Liat C.diff – Qualitative IVD test, that utilizes real-time PCR, for the direct detection of the tcdB gene of toxigenic *C. difficile* in unformed stool specimens	EU ✓
		cobas Liat MRSA/SA – Qualitative IVD test, that utilizes real-time PCR, for the direct detection of MRSA and *Staphylococcus aureus* DNA from nasal swabs	EU ✓
	Women's Health	AMH – Immunoassay for the in vitro quantitative determination of anti-Mullerian hormone (AMH) in human serum and plasma for the assessment of the ovarian reserve in women presenting to fertility clinics	US ✓
	Companion Diagnostics	PD-L1 (SP142) for Bladder Cancer* – complementary diagnostic for Tecentriq	EU ✓
		PD-L1 (SP142) for NSCLC* – complementary diagnostic for Tecentriq	EU ✓

* = Achieve commercial readiness, dependent on Pharma label and approval

Key launches 2018

	Area	Product	Market
Instruments/ Devices	**Central Laboratory**	cobas pro integrated solution – Serum Work Area solution for medium throughput to lower high throughout labs	CE
	Specialty Testing	cobas m 511 – World's first fully digital morphology analyzer and cell counter	US
	Workflow	CCM connectivity to cobas c513 – Connection of cobas c 513 to CCM Automation System for high volume HbA1c testing	WW
	Tissue Dx	BenchMark ULTRA Plus – New and differentiated Advanced Staining System	CE
	Digital Pathology	VENTANA DP200 – Reliable low-volume scanner with superior image quality	CE
	Diabetes Care	Solo Patch Pump – Small and tubeless insulin delivery device operated through a remote control which includes a blood glucose meter	CE
Tests/ Assays	**Endocrinology**	IGFBP3 – Completion of the existing growth hormone menu of hGH and IGF-1	CE
	Infectious Diseases	Zika IgG – Highly specific immunoassay for the in vitro qualitative detection of IgG antibodies to Zika virus in human serum and plasma	CE
	Microbiology	cobas CT/NG – Highest throughput CT/NG test on the market with workflow efficiency benefits	US
		cobas 6800/8800 MTB/MAI – High volume solution for MTB/MAI testing; efficient approach to disease management (mixed testing) for infectious disease	CE
	Virology	Plasma Separation Card – Card-like sample collection device; separates plasma from whole blood; for use with CAP/CTM HIV-1 & cobas HIV-1 (6800/8800)	CE ✔
	Sequencing	AVENIO FFPET RUO oncology kits – 3 separate tissue based assay kits for solid tumors	WW
Software	**Decision Support**	NAVIFY Tumor Board v 1.x – EMR integration	WW

Finance

Alan Hippe
Chief Financial Officer

2017 results

Focus on Cash

Outlook

FY 2017: Highlights

Business

- Good sales growth of +5%[1] and Core operating profit up +3%[1]
- Core EPS growth +5%[1]
- Dividend in Swiss francs further increased

Cash flow

- Significant cash generation (Operating Free Cash Flow of CHF 17.8bn, +26%[1])
- Net debt lower by CHF 6.3bn vs. YE 2016 as Free Cash Flow of CHF 13.4bn more than offsets dividends paid

Net financial results

- Core net financial result improved by +25%[1] driven mainly by 15%[1] lower interest expenses[2] and lower losses on debt redemption

IFRS

- Net income -9%[1] due to impairment of intangible assets

[1] At Constant Exchange Rates (CER)
[2] incl. amortisation of debt discount and net gains on interest rate derivatives

2017: Group performance

Core EPS growth +5%, in line with sales growth

	2017 CHFm	2016 CHFm	Change in % CHF	Change in % CER
Sales	**53,299**	**50,576**	**5**	**5**
Core operating profit	**19,012**	**18,420**	**3**	**3**
as % of sales	*35.7*	*36.4*		
Core net income	**13,404**	**12,688**	**6**	**6**
as % of sales	*25.1*	*25.1*		
Core EPS (CHF)	**15.34**	**14.53**	**6**	**5**
IFRS net income	**8,825**	**9,733**	**-9**	**-9**
Operating free cash flow	**17,827**	**14,086**	**27**	**26**
as % of sales	*33.4*	*27.9*		
Free cash flow	**13,420**	**9,130**	**47**	**47**
as % of sales	*25.2*	*18.1*		

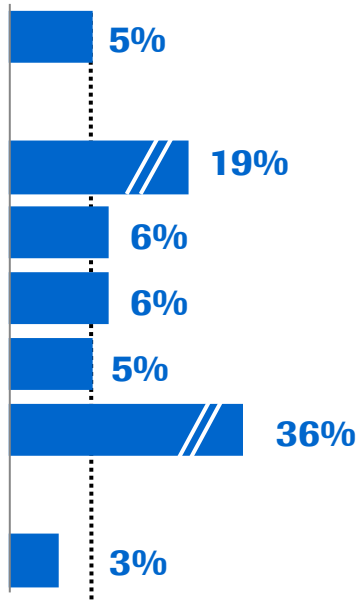
CER=Constant Exchange Rates

2017: Group operating performance

Core operating profit growth +3%, supporting new launches

	2017 CHFm	2017 % sales
Sales	**53,299**	**100.0**
Royalties & other op. inc.	2,447	4.6
Cost of sales	-14,366	-27.0
M & D	-9,512	-17.8
R & D	-10,392	-19.5
G & A	-2,464	-4.6
Core operating profit	**19,012**	**35.7**

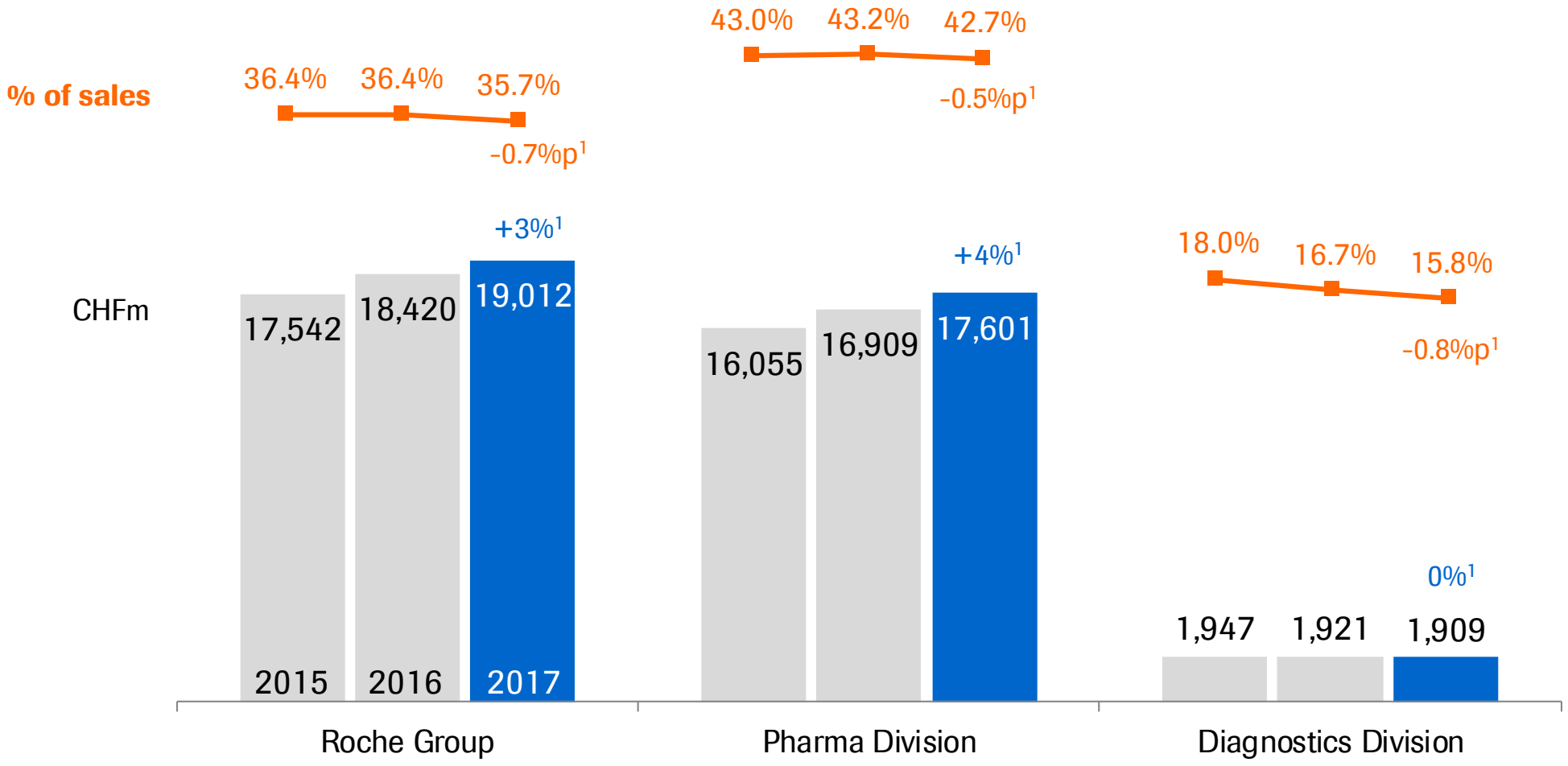
2017 vs. 2016
CER growth



+3% in CHF

CER=Constant Exchange Rates

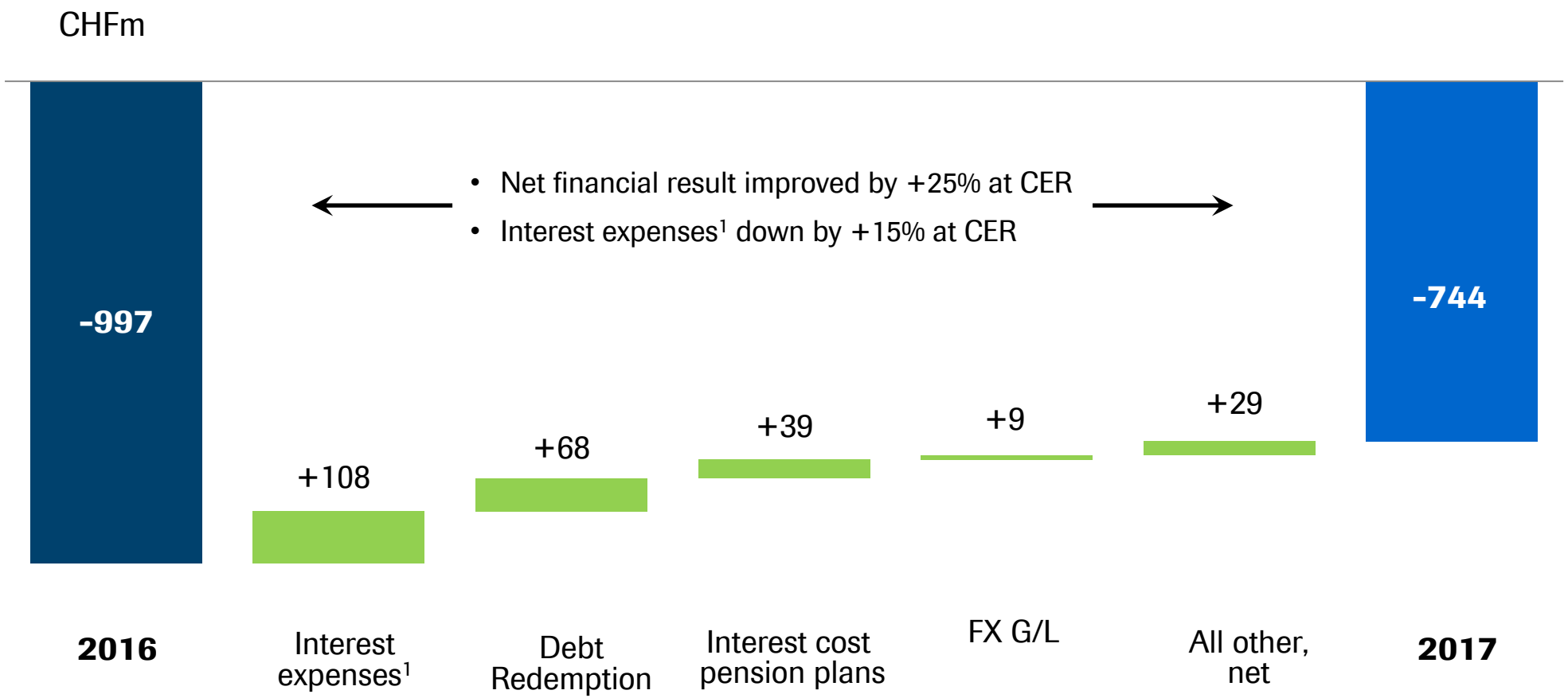
2017: Core operating profit and margin



[1] At CER=Constant Exchange Rates

2017: Core net financial result

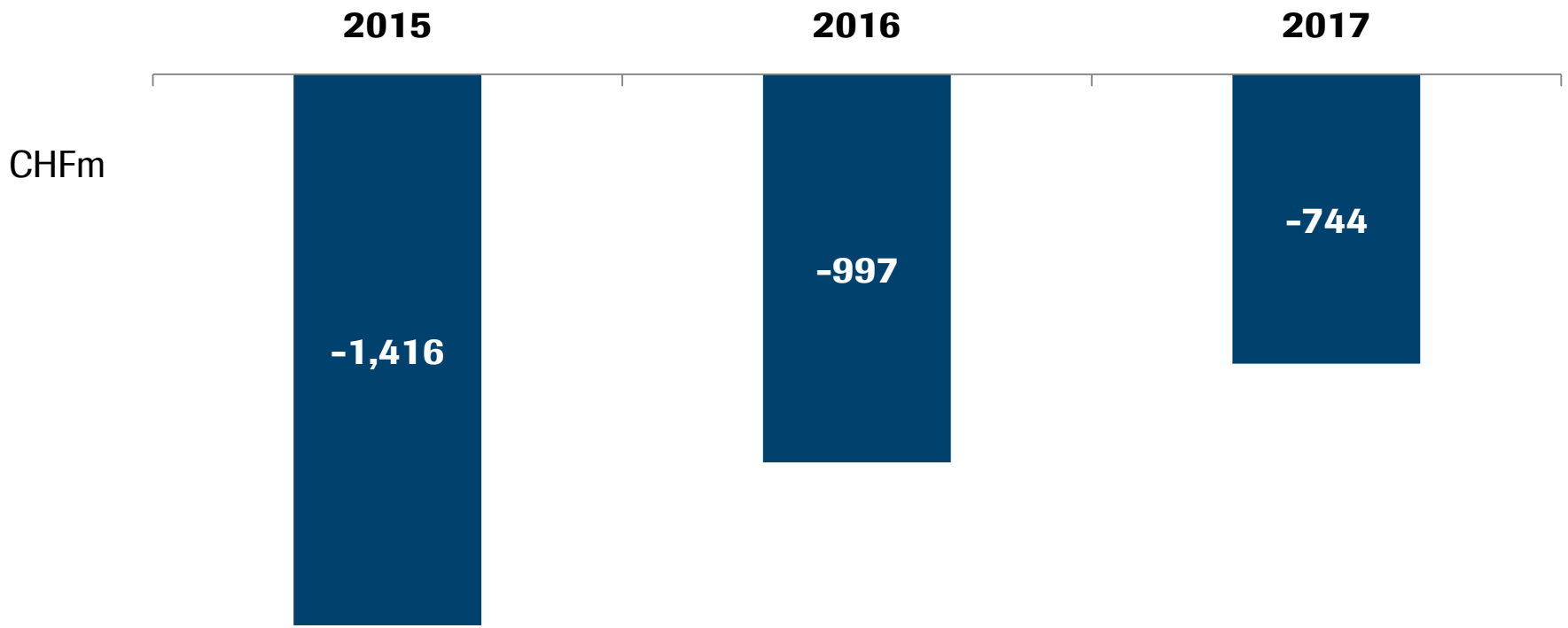
+25% improvement mainly due to lower interest expenses and lower losses on debt redemption



CER = Constant Exchange Rates (avg full year 2016)

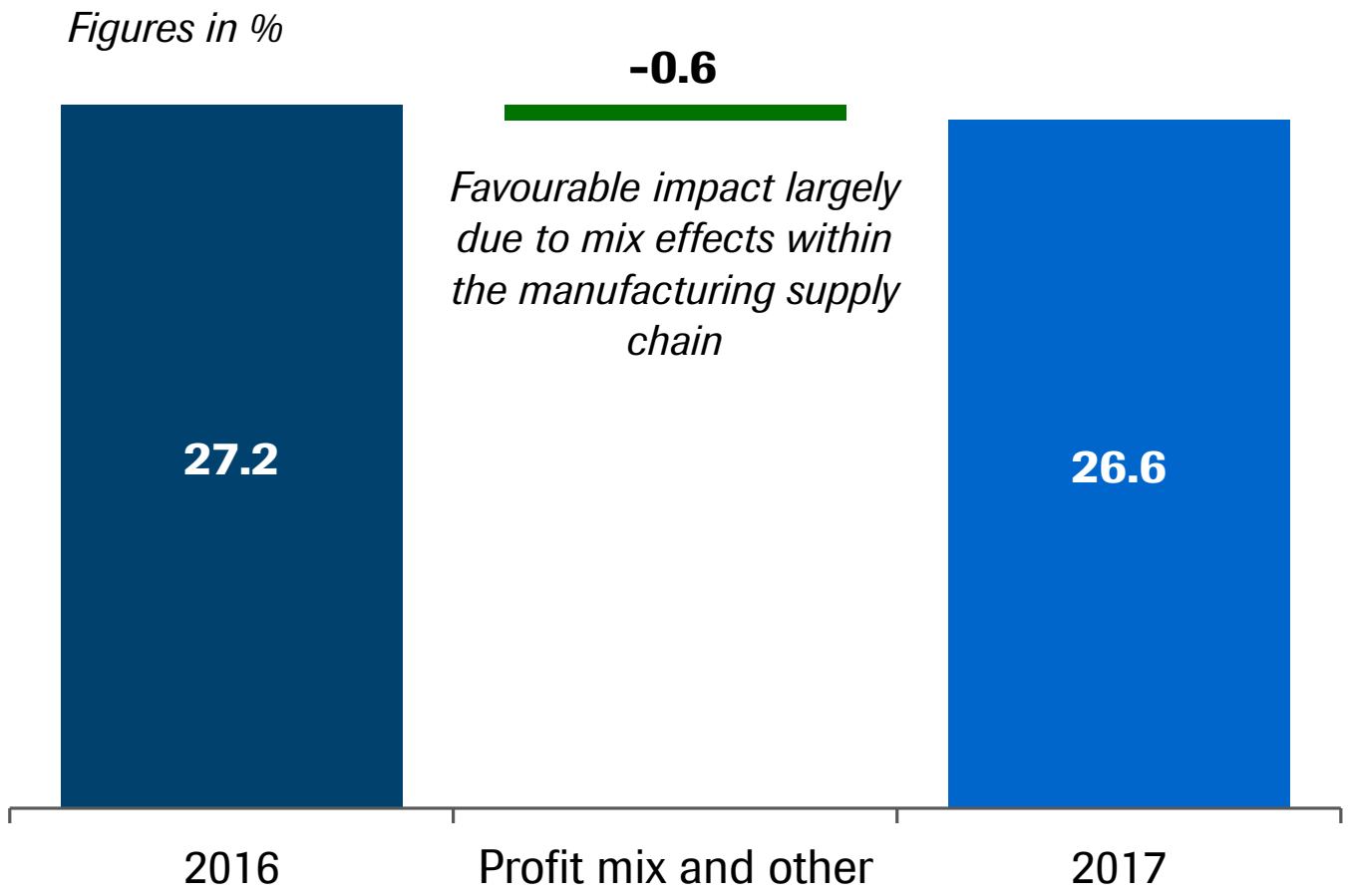
[1] incl. amortisation of debt discount and net gains on interest rate derivatives

Core net financial result: Continuous improvement



	2015	2016	2017
Effective int. rate	*3.7%*	*2.9%*	*2.8%*

2017/18: Group Core tax rate



2018: Impact of US tax reform

- Corporate Core tax rate expected to be in the low twenties[1] vs mid to high-twenties range previously

[1] barring any changes to tax legislation or other one-off items

FY 2017: Non-core items; IFRS result impacted by impairments of goodwill & intangible assets

Full Year	2016	2017	CHFm	CHF	CER
Core operating profit	**18,420**	**19,012**	**+592**	**+3%**	**+3%**
Global restructuring plans	-1,233	-1,208	+25		
Amortisation of intangible assets	-1,783	-1,691	+92		
Impairment of intangible assets[1]	-1,508	-3,518	-2,010		
Alliances & Business Combinations	+234	+350	+116		
Legal & Environmental[2]	-61	+58	+119		
Total non-core operating items	-4,351	-6,009	-1,658		
IFRS operating profit	**14,069**	**13,003**	**-1,066**	**-8%**	**-8%**
Total financial result & taxes	-4,336	-4,178	+158		
IFRS net income	**9,733**	**8,825**	**-908**	**-9%**	**-9%**

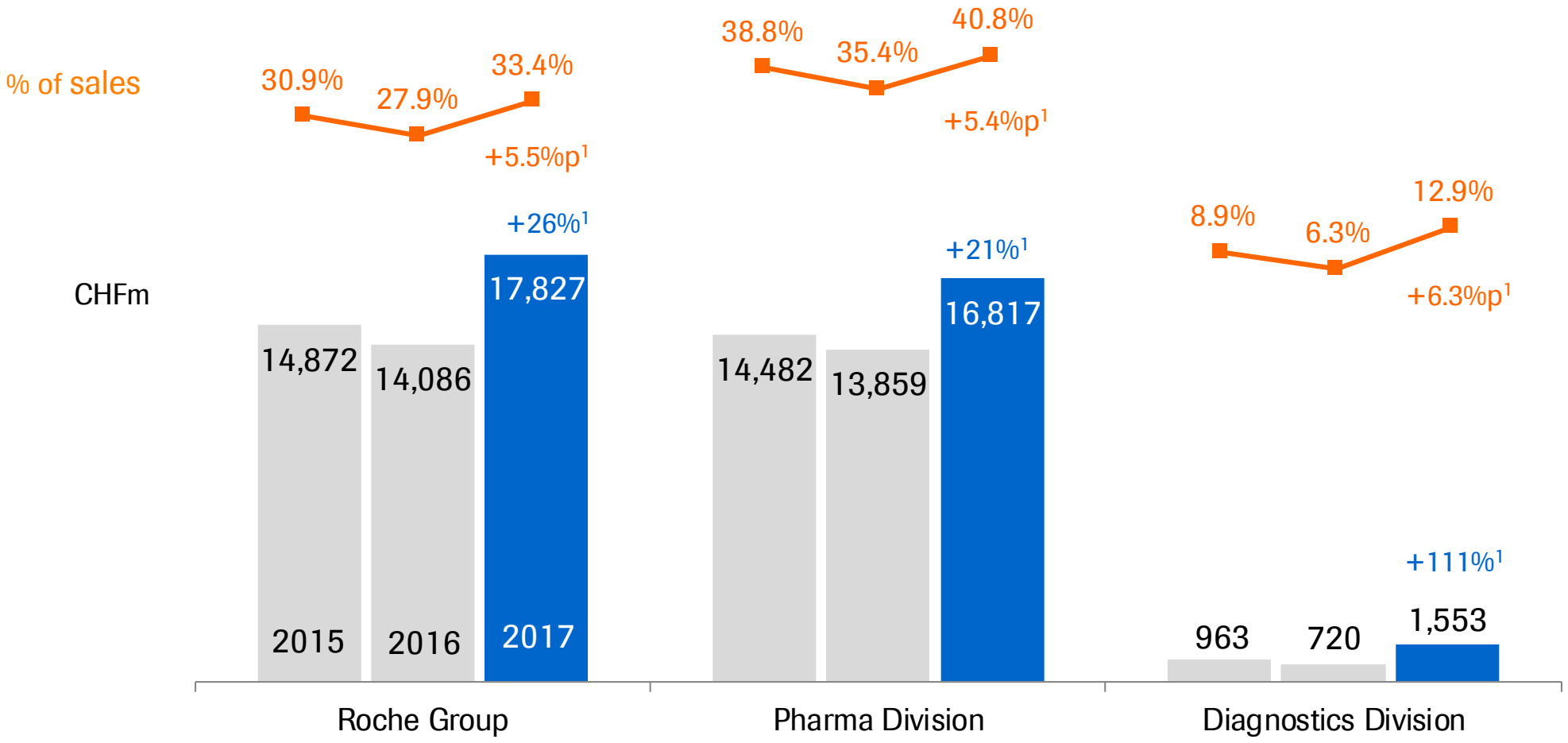
CER=Constant Exchange Rates; [1] incl. goodwill [2] incl. pension plan settlements

2017 results

Focus on Cash

Outlook

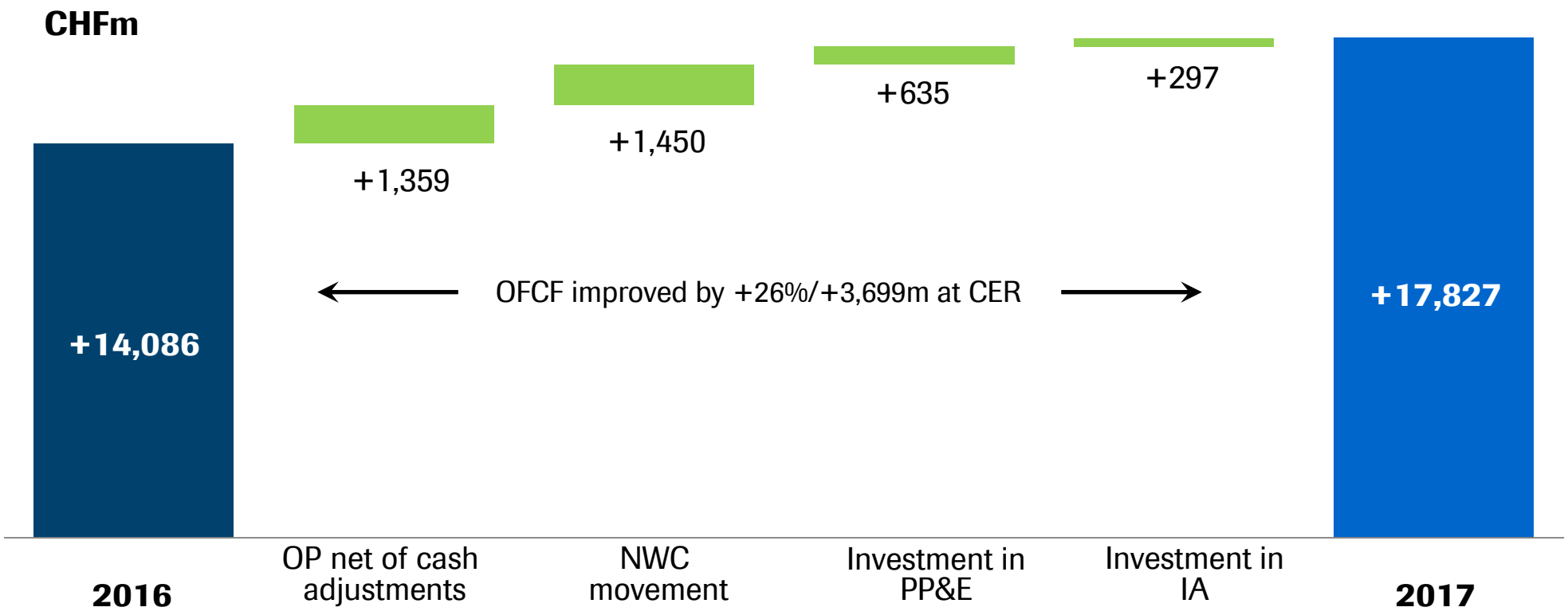
2017: Strong operating free cash flow and margin



[1] At CER=Constant Exchange Rates

2017: Strong operating free cash flow

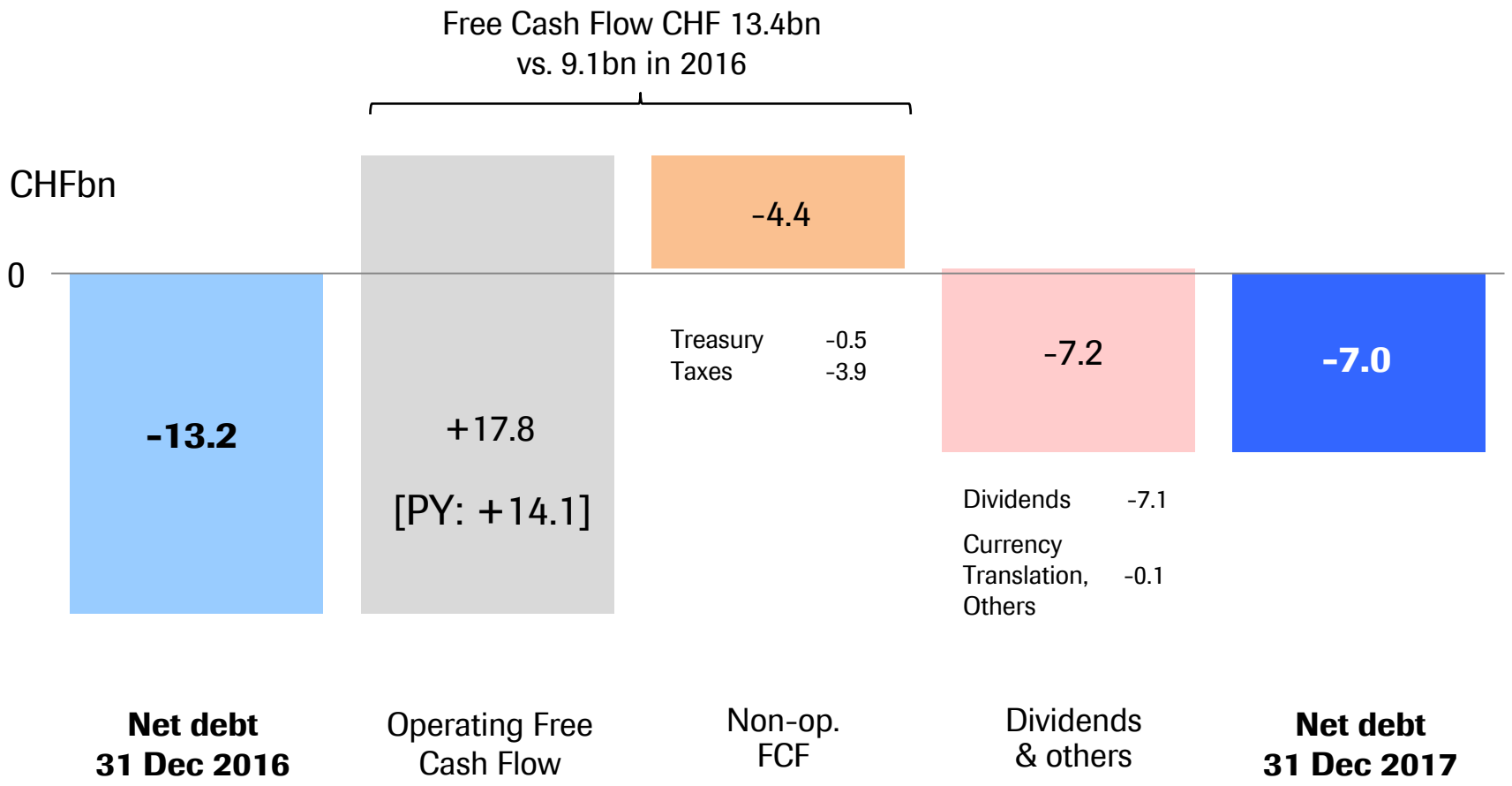
CHF +3.7bn/+26% higher than PY



CER = Constant Exchange Rates (avg full year 2016); OP=operating profit; NWC=net working capital; PP&E=property, plant & equipment; IA=intangible assets

2017: Group net debt significantly improved

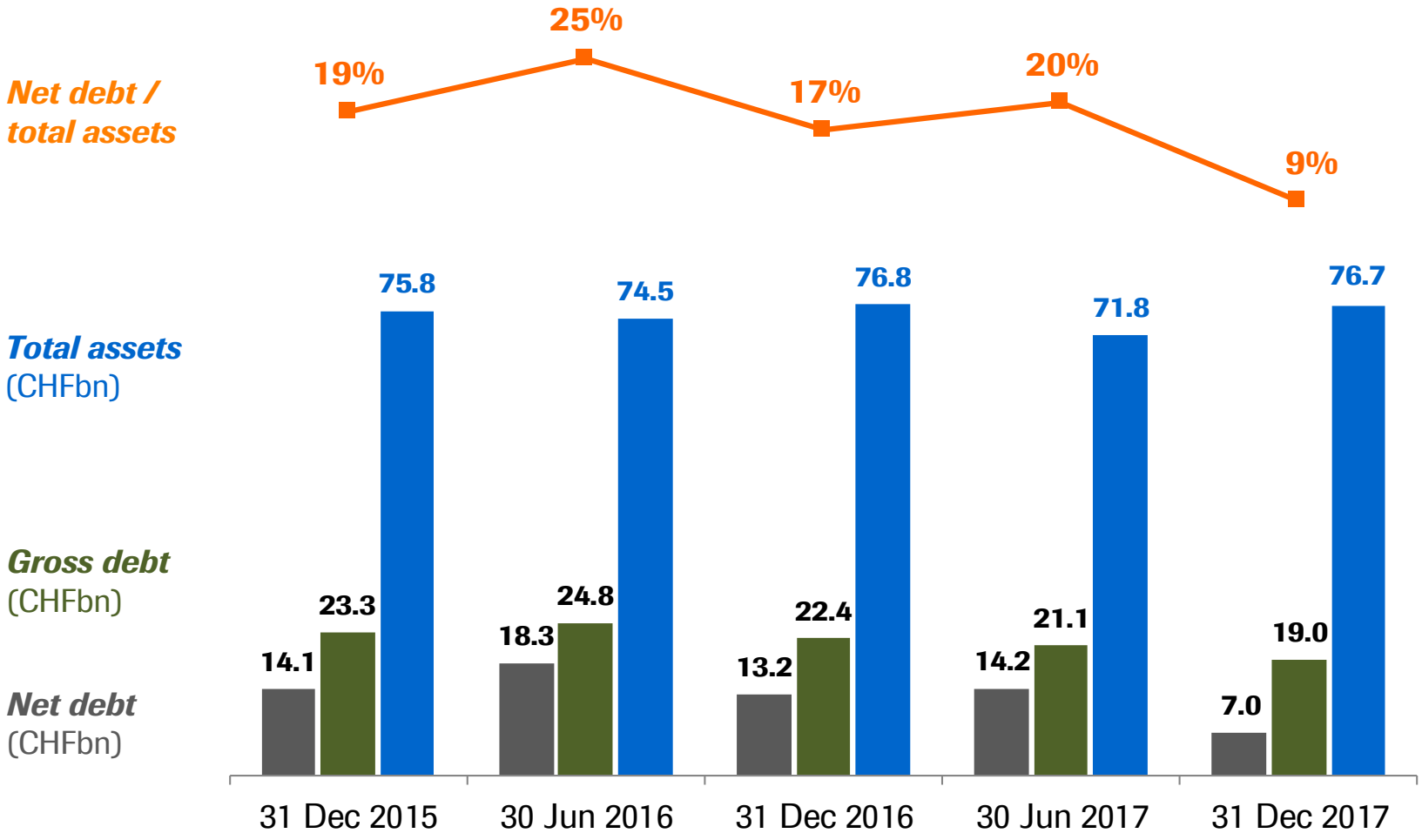
Lower net debt due to improved free cash flow



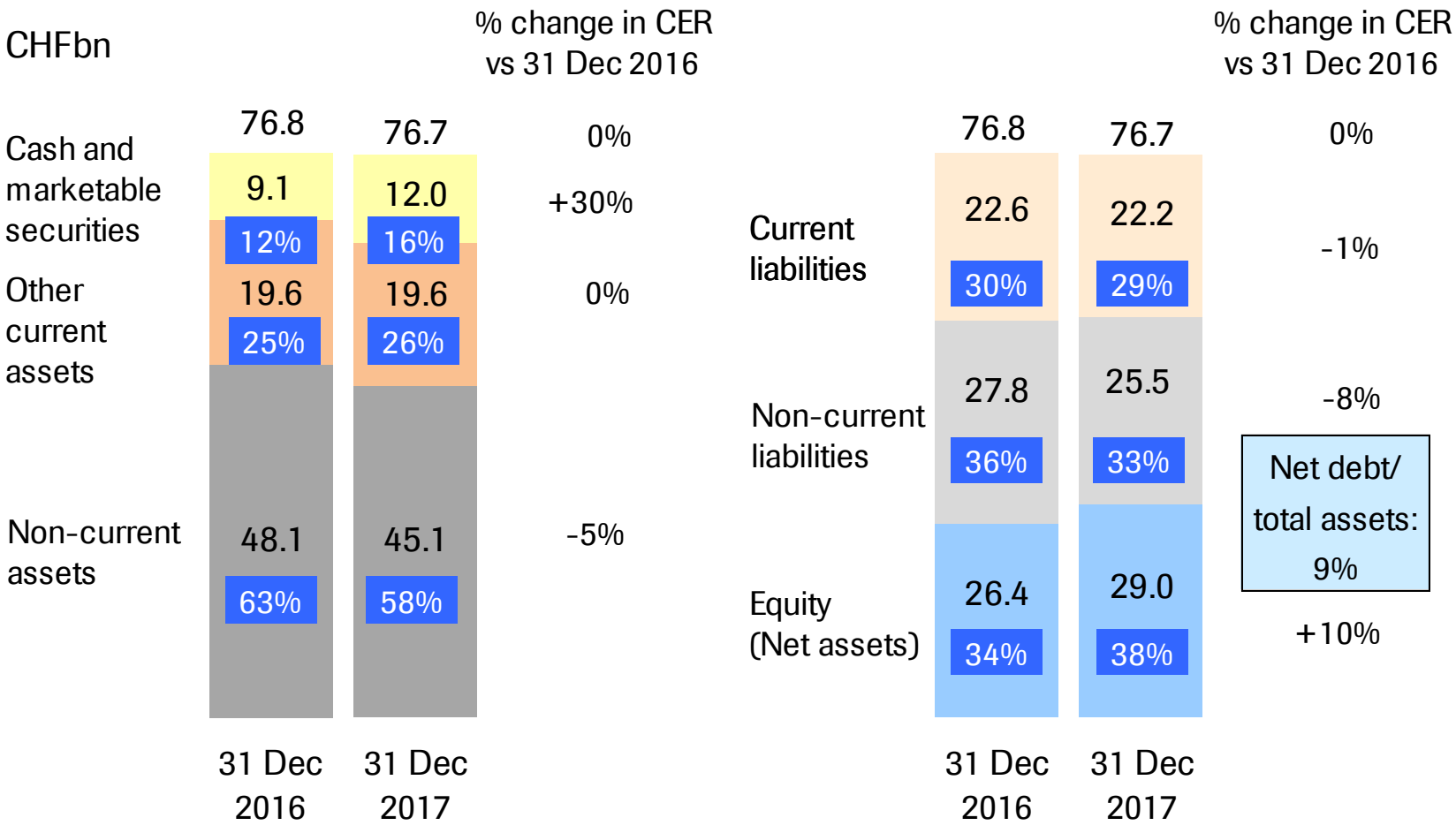
CER = Constant Exchange Rates (avg full year 2016)

Balance sheet

Net debt to total assets now at 9% vs. 19% at YE 2015



Balance sheet 31 December 2017



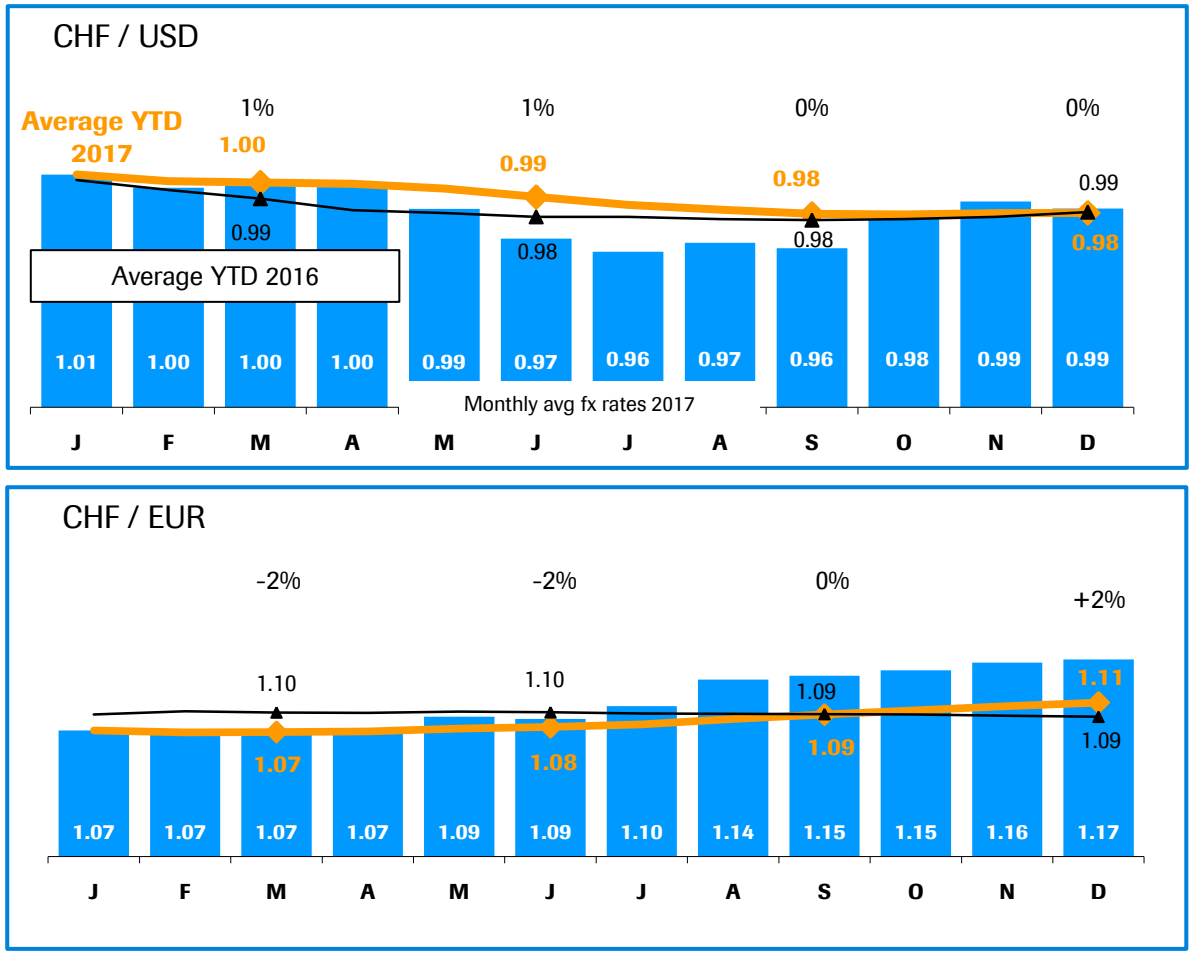
CER = Constant Exchange Rates (avg full year 2016)

2017 results

Focus on Cash

Outlook

Low currency impact in 2017



In 2017 impact is (%p):

	Q1	HY	Sep YTD	FY
Sales	**0**	**0**	**0**	**0**
Core operating profit		**0**		**0**
Core EPS		**0**		**1**

***2018** currency impact[1] expected (based on **31 Dec 2017** FX rates):*

- Up to +1%p FX impact on Sales, Core OP & Core EPS

[1] On Group growth rates

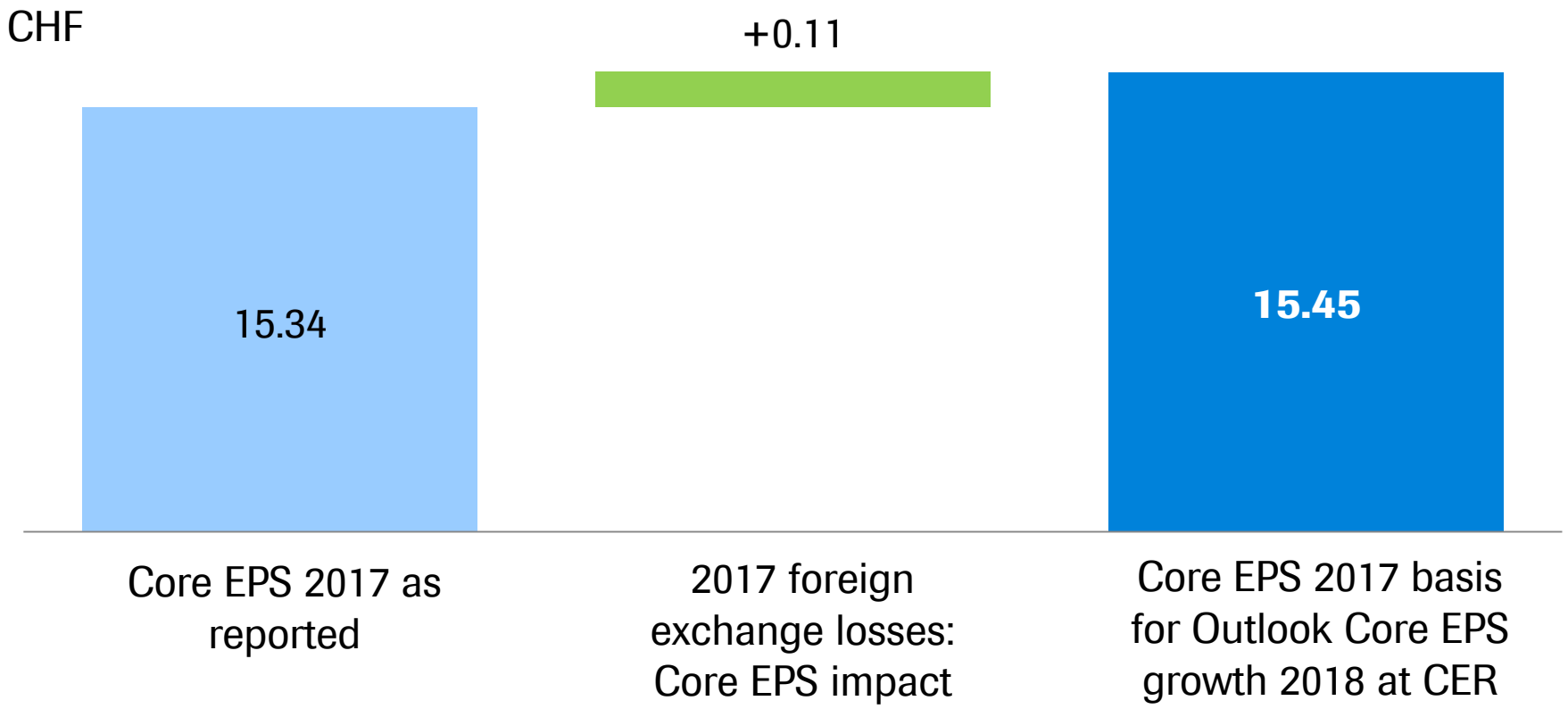
2018 outlook

Group sales growth[1]	• Stable to low-single digit
Core EPS growth[1]	• Broadly in line with sales, excl. US tax reform benefit • High-single digit, incl. US tax reform benefit
Dividend outlook	• Further increase dividend in Swiss francs

[1] At Constant Exchange Rates (CER)

Full Year 2017: Core EPS

Core EPS 2017 of CHF 15.45 is basis for outlook Core EPS growth 2018 at CER



CER=Constant Exchange Rates (avg full year 2017)

Pipeline summary

Marketed products additional indications

Global Development late-stage trials

pRED (Roche Pharma Research & Early Development)

gRED (Genentech Research & Early Development)

Roche Group 2017 results

Diagnostics

Foreign exchange rate information

Changes to the development pipeline
FY 2017 update

New to phase I

6 NMEs:
RG6109 NME - AML
RG6151 NME - asthma
RG6171 SERD (3) – ER+ (HER2neg) mBC
RG6174 NME – inflammatory diseases
RG6264 Perjeta + Herceptin FDC SC – HER2+ eBC
RG7816 GABA-Aa5 PAM - autism

1 AIs:
RG7446 Tecentriq + tazemetostat – r/r DLBCL

New to phase II

1 NME:
RG1678 bitopertin – beta thalassemia

New to phase III

1 NMEs:
RG6152 baloxavir marboxil (CAP endonuclease inh) – influenza

6 AIs:
RG3648 Xolair – nasal polyps
RG7421 Cotellic + Tecentriq – 1L BRAF WT melanoma
RG7440 ipatasertib – 1L TNBC/HR+ BC
RG7446/RG7853 Tecentriq or Alecensa - 1L NSCLC Dx+
RG7596 polatuzumab vedotin -1L DLBCL
RG7601 Venclexta + LDAC – 1L AML

New to registration

1 AI following filing in US and EU:
RG7601 Venclexta + Rituxan – r/r CLL

2 AIs following filing in US:
RG435 Avastin – FL ovarian cancer
RG3645 Lucentis 0.3mg PFS – DME/DR

1 AI following filing in EU:
RG1569 Actemra auto injector – RA

Removed from phase I

3 NMEs:
RG6047 SERD (2) – ER+ (HER-neg) mBC
RG7203 PDE10A inh – schizophrenia
RG7986 ADC – r/r NHL

Removed from phase II

1 AI:
RG3502 Kadcyla + Tecentriq – 2L Her2+ mBC

Removed from phase III

1 NME:
RG7417 lampalizumab – geographic atrophy

Removed from registration

3 AIs following US approval:
RG435 Avastin - GBM
RG7159 Gazyva – 1L FL
RG7204 Zelboraf – Erdheim-Chester disease

1 AI following US and EU approval:
RG7853 Alecensa – 1L ALK+ NSCLC

1 NME following EU approval:
RG1594 Ocrevus - PPMS + RMS

Status as of February 1, 2018

Roche Group development pipeline

Phase I (43 NMEs + 23 AIs)

RG6264	Perjeta + Herceptin FDC SC	HER2+ BC
RG6026	CD20 TCB	heme tumors
RG6058	TIGIT ± Tecentriq	solid tumors
RG6109	--	AML
RG6114	mPI3K alpha inh	HR+ BC
RG6146	BET inh combos	solid + heme tumors
RG6160	-	multiple myeloma
RG6171	SERD (3)	ER+ (HER2neg) mBC
RG6180	personalized cancer vaccine ± T	oncology
RG6185	pan-RAF inh + Cotellic	solid tumors
RG7155	emactuzumab + Tecentriq	solid tumors
	emactuzumab + selicrelumab	solid tumors
RG7159	anti-CD20 combos	heme tumors
RG7386	FAP-DR5 biMAb	solid tumors
RG7421	Cotellic + Zelboraf + T	melanoma
	Cotellic + T	2L BRAF WT mM
RG7446	Tecentriq	solid tumors
	Tecentriq	NMIBC
	T-based Morpheus platform	solid tumors
	T + Avastin + Cotellic	2/3L CRC
	T ± Avastin ± chemo	HCC, GC, PaC
	T + Cotellic	solid tumors
	T + ipi/IFN	solid tumors
	T + Tarceva/Alecensa	NSCLC
	T + anti-CD20 combos	heme tumors
	T ± lenalidomide ± daratumumab	MM
	T + K/HP	HER2+ BC
	T + HMA	MDS
	T + radium 223	mCRPC
	T + guadecitabine	AML
	T + rucaparib	ovarian ca
	T + Gazyva/tazemetostat	r/r DLBCL + FL
RG7461	FAP IL2v FP combos	solid tumors
RG7601	Venclexta + Cotellic/idasanutlin	AML
	Venclexta ± azacitadine	r/r MDS
RG7741	ChK1 inh	solid tumors
RG7802	CEA TCB ± Tecentriq	solid tumors
RG7813	CEA IL2v FP* + Tecentriq	solid tumors
RG7828	CD20 TDB ± Tecentriq	heme tumors
RG7876	selicrelumab (CD40) + T	solid tumors
	selicrelumab + vanucizumab	solid tumors
RG7882	MUC16 ADC	ovarian ca
CHU	Raf/MEK dual inh	solid tumors
CHU	glypican-3/CD3 biMAb	solid tumors
RG6069	anti-fibrotic agent	fibrosis
RG6107	C5 inh MAb	PNH
RG6151	-	asthma
RG6174	-	inflammatory diseases
RG7835	IgG-IL2 FP	autoimmune diseases
RG7880	IL-22Fc	inflammatory diseases
RG7990	-	asthma
RG6004	HBV LNA	HBV
RG6080	nacubactam	bact. infections
RG7854	TLR7 agonist (3)	HBV
RG7861	anti-S. *aureus* TAC	infectious diseases
RG7907	HBV Capsid (2)	HBV
RG7992	FGFR1/KLB MAb	metabolic diseases
RG6000	-	ALS
RG6029	Nav1.7 inh (2)	pain
RG6042	ASO	Huntington's
RG7816	GABA Aa5 PAM	autism
RG7906	-	psychiatric disorders
RG6147	-	geographic atrophy
RG7945	-	glaucoma
CHU	PTH1 recep. ago	hypoparathyroidism
CHU	-	hyperphosphatemia

New Molecular Entity (NME)
Additional Indication (AI)
Oncology
Immunology
Infectious Diseases
CardioMetabolism
Neuroscience
Ophthalmology
Other

RG-No Roche/Genentech
CHU Chugai managed
PRO Proximagen managed
NOV Novimmune managed
*INN: cergutuzumab amunaleukin
**out-licensed to Galderma and Maruho for atopic dermatitis
*** Ph2 Pivotal
§ FPI expected Q1 2018
T=Tecentriq; TCB=T cell bispecific; TDB=T cell dependent bispecific

Phase II (19 NMEs + 9 AIs)

RG7388	idasanutlin §	polycythemia vera
RG7421	Cotellic + Tecentriq ± taxane	TNBC
RG7440	ipatasertib	TNBC neoadj
RG7596	polatuzumab vedotin	r/r DLBCL + FL
RG7601	Venclexta + Rituxan	DLBCL
	Venclexta + Rituxan	r/r FL
	Venclexta + azacitadine	1L MDS
RG7604	taselisib + letrozole	(HER2-neg) BC neoadj
RG7686	codrituzumab	liver cancer
RG3637	lebrikizumab ± Esbriet	IPF
RG6125	Cadherin-11 MAb	RA
RG6149	ST2 MAb	asthma
RG7159	obinutuzumab	lupus
RG7625	Cat-S antag	autoimmune diseases
RG7845	BTK inh	RA, lupus, CSU
CHU	nemolizumab**	pruritus in dialysis patients
PRO	VAP-1 inh	inflammatory disease
NOV	TLR4 MAb	autoimmune diseases
CHU	URAT1 inh	gout
RG1662	basmisanil	CIAS
RG1678	bitopertin	beta thalassemia
RG6083	olesoxime	SMA
RG6100	Tau MAb	Alzheimer's
RG7314	balovaptan (V1a receptor antag)	autism
RG7916	SMN2 splicer(2)***	SMA
RG7935	α-synuclein MAb	Parkinson's
RG3645	ranibizumab PDS	wAMD
RG7716	VEGF-ANG2 biMAb	wAMD, DME

Status as of February 1, 2018

Roche Group development pipeline

Phase III (9 NMEs + 34 AIs)

RG3502	Kadcyla	HER2+ BC adj
	Kadcyla + Perjeta	HER2+ BC adj
RG6013	Hemlibra	hemophilia A w/o FVIII inh
	Hemlibra	Q4W hemophilia A
RG7388	idasanutlin + chemo	AML
RG7440	ipatasertib + chemo	1L CRPC
	ipatasertib	1L TNBC/HR+ BC
RG7421	Cotellic + Zelboraf + T	1L BRAFm melanoma
	Cotellic + T	1L BRAF WT melanoma
RG7596	polatuzumab vedotin	1L DLBCL
RG7446	Tecentriq	NSCLC adj
	Tecentriq	MIBC adj
	Tecentriq Dx+	1L sq + non-sq SCLC
	Tecentriq	RCC adj
	T + nab-paclitaxel	1L non-sq NSCLC
	T + chemo+ Avastin	1L ovarian cancer
	T + chemo + Avastin	1L non-sq NSCLC
	T + chemo + pemetrexed	1L non-sq NSCLC
	T + nab-paclitaxel	1L sq NSCLC
	T + paclitaxel	1L TNBC
	T + nab-paclitaxel	1L TNBC
	T + nab-paclitaxel	TNBC neoadj
	T + Avastin	RCC
	T + Cotellic	3L CRC
	T ± chemo	1L mUC
	T + chemo	1L extensive stage SCLC
	T + enzalutamide	CRPC
RG7446/RG7853	Tecentriq or Alecensa	1L NSCLC Dx+
RG7601	Venclexta + Gazyva	1L CLL
	Venclexta + bortezomib	MM
	Venclexta + azacitidine	1L AML
	Venclexta + LDAC	1L AML
RG7604	taselisib + fulvestrant	ER+(HER2-neg) mBC
RG105	MabThera	pemphigus vulgaris
RG1569	Actemra	systemic sclerosis
RG3648	Xolair	nasal polyps
RG7413	etrolizumab	ulcerative colitis
	etrolizumab	Crohn's
RG6152	baloxavir marboxil (CAP endonuclease inh)	influenza
RG1450	gantenerumab	Alzheimer's
RG6168	satralizumab (IL-6R Mab)	NMO
RG6206	anti-myostatin adnectin	DMD
RG7412	crenezumab	Alzheimer's

New Molecular Entity (NME)
Additional Indication (AI)
Oncology
Immunology
Infectious Diseases
CardioMetabolism
Neuroscience
Ophthalmology
Other

RG-No Roche/Genentech
CHU Chugai managed
RG1569 Branded as RoActemra (EU)

T=Tecentriq

Registration (1 NME + 5 AIs)

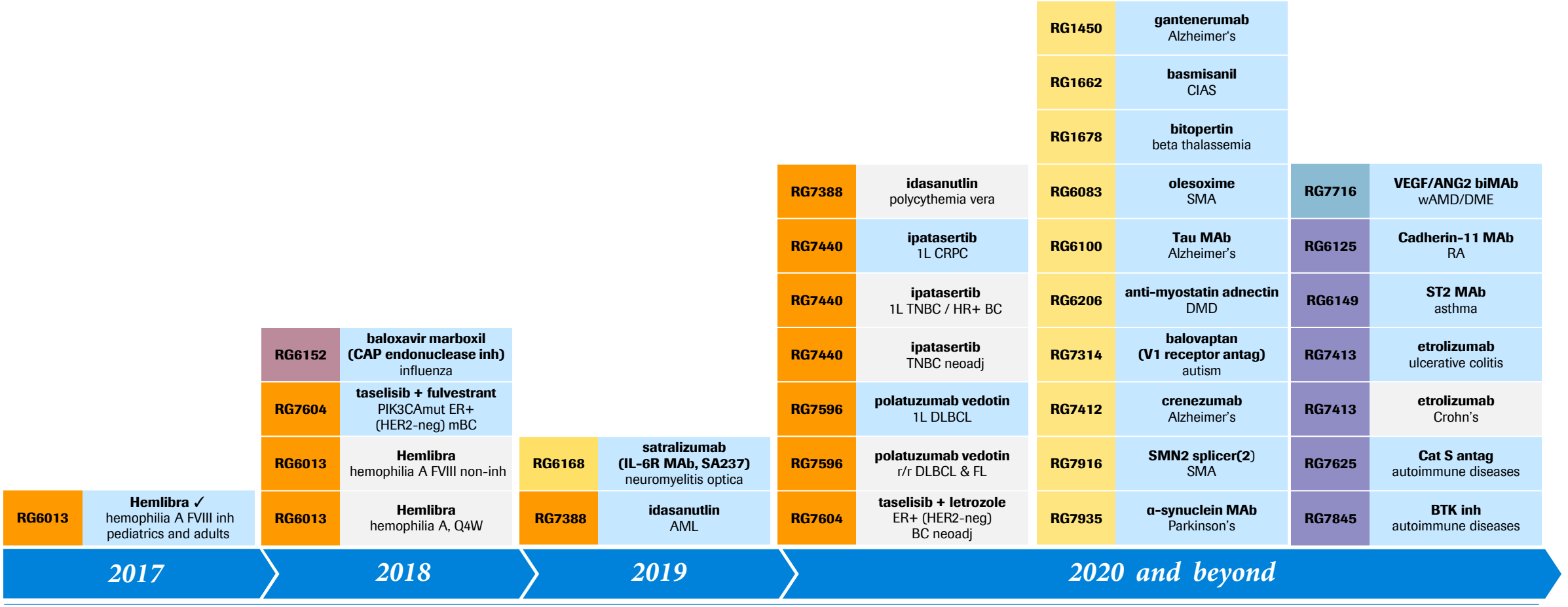
RG435	Avastin[1]	ovarian FL
RG1273	Perjeta + Herceptin[2]	HER2+ BC adj
RG6013	Hemlibra[3]	hemophilia A FVIII inh
RG7601	Venclexta + Rituxan	r/r CLL
RG1569	Actemra auto injector[4]	RA
RG3645	Lucentis 0.3mg PFS[1]	DME/DR

1 US only
2 Approved in US
3 Approved in US; positive CHMP opinion
4 EU only

Status as of February 1, 2018

NME submissions and their additional indications

Projects currently in phase II and III



✓ Indicates submission to health authorities has occurred
Unless stated otherwise submissions are planned to occur in US and EU

New Molecular Entity (NME)
Additional Indication (AI)
Oncology
Immunology
Infectious Diseases
CardioMetabolism
Neuroscience
Ophthalmology
Other

Status as of February 1, 2018

AI submissions for existing products

Projects currently in phase II and III

2017

RG36452	**Lucentis 0.3mg PFS (US) ✓** DME/DR
RG1569	**Actemra auto injector (EU) ✓** RA
RG435	**Avastin (US) ✓** GBM
RG435	**Avastin (US) ✓** ovarian FL
RG1273	**Perjeta + Herceptin ✓** HER2+ BC adj.
RG7159	**Gazyva (US) ✓** 1L FL
RG7204	**Zelboraf (US) ✓** Erdheim-Chester disease
RG7601	**Venclexta + Rituxan (US) ✓** r/r CLL
RG7853	**Alecensa ✓** 1L ALK+ NSCLC

2018

RG105	**MabThera** pemphigus vulgaris
RG1569	**Actemra** systemic sclerosis
RG1569	**Actemra auto injector (US)** RA/GCA
RG7601	**Venclexta + Rituxan (EU) ✓** r/r CLL
RG7601	**Venclexta + azacitidine/LDAC** 1L AML
RG7446	**Tecentriq + Cotellic** 3L CRC
RG7446	**Tecentriq + chemo + Avastin** 1L non-sq NSCLC
RG7446	**Tecentriq + nab-paclitaxel** 1L sq NSCLC
RG7446	**Tecentriq + nab-paclitaxel** 1L non-sq NSCLC
RG7446	**Tecentriq + chemo + pemetrexed** 1L non-sq NSCLC
RG7446	**Tecentriq + chemo** 1L extens. stage SCLC
RG7446	**Tecentriq + Avastin** RCC
RG7446	**Tecentriq + nab-paclitaxel** TNBC

2019

RG7421	**Cotellic + Tecentriq** 1L BRAF WT melanoma
RG7421	**Cotellic + Tecentriq + Zelboraf** 1L BRAFmut melanoma
RG7446	**Tecentriq** 1L non-sq + sq NSCLC (Dx+)
RG7446	**Tecentriq + nab-paclitaxel** TNBC neoadj
RG7446	**Tecentriq + paclitaxel** 1L TNBC
RG7601	**Venclexta + Gazyva** 1L CLL
RG7601	**Venclexta + bortezomib** MM

2020 and beyond

RG3502	**Kadcyla + Perjeta** HER2+ BC adj.
RG3502	**Kadcyla** HER2+ BC adj.
RG7601	**Venclexta + Rituxan** r/r FL
RG7601	**Venclexta + Rituxan** DLBCL
RG7601	**Venclexta + aza** 1L MDS
RG7421	**Cotellic + Tecentriq ± taxane** TNBC
RG3645	**ranibizumab PDS** wAMD
RG3648	**Xolair** nasal polyps
RG7159	**obinutuzumab** lupus nephritis
RG7446/ RG7853	**Tecentriq or Alecensa** 1L NSCLC Dx+
RG7446	**Tecentriq ± chemo** 1L mUC
RG7446	**Tecentriq** NSCLC adj
RG7446	**Tecentriq** MIBC adj
RG7446	**Tecentriq + enzalutamide** CRPC
RG7446	**Tecentriq** RCC adj
RG7446	**Tecentriq + chemo + Avastin** 1L ovarian cancer

✓ Indicates submission to health authorities has occurred
Unless stated otherwise submissions are planned to occur in US and EU

New Molecular Entity (NME)
Additional Indication (AI)
Oncology
Immunology
Infectious Diseases
CardioMetabolism
Neuroscience
Ophthalmology
Other

Status as of February 1, 2018

Major granted and pending approvals 2017

Approved

US		EU		Japan-Chugai	
RG105	**Rituxan Hycela™** (SC) NHL/CLL, Jun 2017	RG435	**Avastin** chemo backbone extension rel. OC Pt-sensitive, Jun 2017	RG7446	**Tecentriq** 2L+ NSCLC, Jan 2017
RG435	**Avastin** GBM, Dec 2017	RG7159	**Gazyva** 1L follicular lymphoma, Sep 2017	CHU	**Actemra** Takayasu arteritis and giant cell arteritis, Aug 2017
RG1273	**Perjeta + Herceptin** HER2+ BC adj, Dec 2017	RG7446	**Tecentriq** mUC 2L, Sep 2017		
RG6013	**Hemlibra (emicizumab)** hemophilia A FVIII inh (ped + adults), Nov 2017	RG7446	**Tecentriq** 2L+ NSCLC, Sep 2017		
RG7159	**Gazyva** 1L follicular lymphoma , Nov 2017	RG7853	**Alecensa** 2L ALK+ NSCLC, Feb 2017 1L ALK+ NSCLC, Dec 2017		
RG7204	**Zelboraf** Erdheim-Chester disease, Nov 2017	RG1569	**Actemra** giant cell arteritis, Sep 2017		
RG7446	**Tecentriq** 1L bladder cancer, cis-ineligible, Apr 2017	RG1594	**Ocrevus** PPMS & RMS, Jan 2018		
RG7853	**Alecensa** 1L ALK+ NSCLC, Nov 2017				
RG1569	**Actemra** giant cell arteritis, May 2017 CRS, Aug 2017				
RG1594	**Ocrevus** PPMS & RMS, Mar 2017				
RG3645	**Lucentis** mCNV, Jan 2017 DR w/o DME, Apr 2017				

New Molecular Entity (NME)
Additional Indication (AI)
Oncology
Immunology
Infectious Diseases
CardioMetabolism
Neuroscience
Ophthalmology
Other

Pending Approval

RG435	**Avastin** Ovarian FL, Filed Aug 2017	RG1273	**Perjeta + Herceptin** HER2+ BC adj, Filed Aug 2017	RG6013	**emicizumab** hemophilia A FVIII inh (ped + adults), Filed Jul 2017
RG7601	**Venclexta + Rituxan** r/r CLL, Filed Dec 2017	RG6013	**Hemlibra (emicizumab)** hemophilia A FVIII inh (ped + adults), Filed Jun 2017		
RG3645	**Lucentis** 0.3 mg PFS DME/DR, Filed Dec 2017	RG7601	**Venclexta + Rituxan** r/r CLL, Filed Jan 2018		
		RG1569	**Actemra auto injector** RA, Filed Jan 2018		

Status as of February 1, 2018

Cancer immunotherapy pipeline overview

Phase I (10 NMEs + 28 AIs)

RG6026	CD20 TCB	hematopoietic tumors
RG6058	TIGIT ± Tecentriq	solid tumors
RG6160	-	multiple myeloma
RG6180	personalized cancer vaccine ± T	oncology
RG7155	emactuzumab + Tecentriq	solid tumors
	emactuzumab + selicrezumab	solid tumors
RG7421	Cotellic + Zelboraf + T	melanoma
	Cotellic + T	BRAF WT mM2L
RG7446	Tecentriq	solid tumors
	Tecentriq	NMIBC
	T-based Morpheus platform	pancreatic ca
	T + Cotellic ± Avastin	2/3L CRC
	T ± Avastin ± chemo	HCC, GC, PaC
	T + Cotellic	solid tumors
	T + ipi/IFN	solid tumors
	T + Tarceva/Alecensa	NSCLC
	T + anti-CD20 multiple combos	lymphoma
	T ± lenalidomide ± daratumumab	MM
	T + K/HP	HER2+ BC
	T + HMA	MDS
	T + radium 223	mCRPC
	T + guadecitabine	AML
	T + rucaparib	ovarian ca
	T + Gazyva/tazemetostat	r/r DLBCL + FL
RG7461	FAP IL2v FP + Tecentriq ± Avastin	RCC
RG7802	CEA TCB ± Tecentriq	solid tumors
RG7813	CEA IL2v FP* + Tecentriq	solid tumors
RG7828	CD20 TDB ± Tecentriq	solid tumors
RG7876	selicrelumab (CD40) + T	solid tumors
	selicrelumab + vanucizumab	solid tumors
AMGN**	Tecentriq + talimogene laherp	TNBC, CRC
BLRX**	Tecentriq + BL-8040	AML, solid tumors
CRVS**	Tecentriq + CPI-444	solid tumors
EXEL**	Tecentriq + cabozantinib	solid tumors
HALO**	Tecentriq + PEGPH20	CCC, GBC
INO**	Tecentriq + INO5401+INO9012	bladder ca
JNJ**	Tecentriq ± daratumumab	solid tumors
KITE**	Tecentriq + KTE-C19	r/r DLBCL

MORPHEUS Platform – Phase Ib/II (4 AIs)

RG7446	T-based Morpheus	pancreatic cancer
	T-based Morpheus	gastric cancer
	T-based Morpheus	HR+ BC
	T-based Morpheus	NSCLC

** External collaborations: BLRX - BioLine Rx CXCR4 antag; CRVS – Corvus ADORA2A antag; EXEL – Exelexis' TKI; Gradalis – EATC therapy; GTHX – G1 Therapeutics CDK4/6; HALO – Halozyme PEGPH20; IMDZ – Immune Design CMB305; INO - Inovio T cell activating immunotherapy (INO-5401), IL-12 activator (INO-9012); JNJ – Janssen CD38 MAb; KITE – Kite KTE-C19; AMGN – Amgen oncolytic virus; SNDX – Syndax HDAC inh

New Molecular Entity (NME)
Additional Indication (AI)
Oncology

RG-No Roche/Genentech
*INN: cergutuzumab amunaleukin
T=Tecentriq; TCB=T cell bispecific
TDB=T cell dependent bispecific

Phase II (5 AIs)

RG7421	Cotellic + Tecentriq ± taxane	TNBC
Gradalis**	Tecentriq + Vigil	ovarian ca
GTHX**	Tecentriq + trilaciclib	SCLC
IMDZ**	Tecentriq + NY-ESO-1	soft tissue sarcoma
SNDX**	Tecentriq + entinostat	TNBC

Phase III (20 AIs)

RG7421	Cotellic + Zelboraf + T	1L BRAFm melanoma
	Cotellic + Tecentriq	1L BRAF WT melanoma
RG7446	Tecentriq	NSCLC adj
	Tecentriq	MIBC adj
	Tecentriq Dx+	1L sq + non-sq SCLC
	Tecentriq	RCC adj
	T + nab-paclitaxel	1L non-sq NSCLC
	T + chemo + Avastin	1L ovarian cancer
	T + chemo + Avastin	1L non-sq NSCLC
	T + chemo + pemetrexed	1L non-sq NSCLC
	T + nab-paclitaxel	1L sq NSCLC
	T + nab-paclitaxel	1L TNBC
	T + nab-paclitaxel	TNBC neoadj
	T + Avastin	RCC
	T + Cotellic	3L CRC
	T ± chemo	1L mUC
	T + chemo	1L extensive stage SCLC
	T + enzalutamide	CRPC
	T + paclitaxel	1L TNBC
RG7446/RG7853	Tecentriq or Alecensa	1L NSCLC Dx+

Status as of February 1, 2018

Pipeline summary

Marketed products additional indications

Global Development late-stage trials

pRED (Roche Pharma Research & Early Development)

gRED (Genentech Research & Early Development)

Roche Group 2017 results

Diagnostics

Foreign exchange rate information

Hemlibra (emicizumab, RG6013, ACE910)

Factor VIII mimetic for treatment of hemophilia A

Indication	Hemophilia A		
Phase/study	**Phase I** Study in Japan	**Phase I/II** Study in Japan	**Non-Interventional study**
# of patients	N=82	N=18	N>90
Design	▪ Enrolled 64 healthy volunteers and 18 patients	▪ Extension study in patients from phase 1	▪ A single arm, multicenter, non-interventional study evaluating bleeding incidence, health-related quality of life and safety in patients with hemophilia A and inhibitors to factor VIII under standard-of-care treatment
Primary endpoint	▪ Exploratory safety and efficacy	▪ Exploratory safety and efficacy	▪ Number of bleeds over time, sites of bleed, type of bleed
Status	▪ Recruitment completed Q2 2014 ▪ Data presented at ASH 2014	▪ Recruitment completed Q4 2014 ▪ Data presented at ISTH 2015 ▪ Extension data presented at WFH 2016	▪ Inhibitor cohort closed Q4 2015, except China ▪ FPI in non-inhibitor and pediatric subjects in Q1 2016 ▪ Initial data presented at ASH 2016
	▪ Breakthrough Therapy Designation granted by FDA Q3 2015		
CT Identifier	JapicCTI-121934	JapicCTI-132195	NCT02476942

In collaboration with Chugai

ASH=American Society of Hematology; ISTH=International Society on Thrombosis and Haemostasis; WFH=World Federation of Hemophilia

Hemlibra (emicizumab, RG6013, ACE910)

Factor VIII mimetic for treatment of hemophilia A

Indication	Hemophilia A patients with inhibitors to factor VIII	Hemophilia A pediatric patients with inhibitors to factor VIII
Phase/study	**Phase III HAVEN 1**	**Phase III HAVEN 2**
# of patients	N=118	N=88
Design	Patients on episodic treatment prior to study entry: ▪ **Arm A:** Episodic treatment + Hemlibra prophylaxis ▪ **Arm B:** Episodic treatment (no prophylaxis) Patients on prophylaxis prior to study entry: ▪ **Arm C:** Hemlibra prophylaxis + episodic treatment Patients on episodic treatment previously on non-interventional study: ▪ **Arm D:** Hemlibra prophylaxis + episodic treatment	Patients on prophylactic or episodic treatment prior to study entry: ▪ Hemlibra prophylaxis
Primary endpoint	▪ Number of bleeds over 24 weeks	▪ Number of bleeds over 52 weeks
Status	▪ FPI Q4 2015 ▪ Recruitment completed in Arms A and B Q2 2016 ▪ Primary and all secondary endpoints met Q4 2016 ▪ Results published in *NEJM* 2017 Aug 31;377(9):809-818	▪ FPI Q3 2016 ▪ Positive interim results in Q2 2017 ▪ Recruitment completed Q2 2017
	▪ Data presented at ISTH 2017, updated data presented at ASH 2017 ▪ Filed in US and EU in Q2 2017; granted accelerated assessment (EMA) and priority review (FDA) ▪ Approved in US Q4 2017; positive CHMP opinion granted by EMA in Jan 2018	
CT Identifier	NCT02622321	NCT02795767

In collaboration with Chugai

ASH=American Society of Hematology; ISTH=International Society on Thrombosis and Haemostasis

Hemlibra (emicizumab, RG6013, ACE910)

Factor VIII mimetic for treatment of hemophilia A

Indication	Hemophilia A patients without inhibitors to factor VIII	Hemophilia A patients with and without inhibitors to Factor VIII, dosing every 4 weeks
Phase/study	**Phase III HAVEN 3**	**Phase III HAVEN 4**
# of patients	N=135	N=46
Design	Patients on FVIII episodic treatment prior to study entry: ▪ **Arm A**: Hemlibra prophylaxis qw ▪ **Arm B**: Hemlibra prophylaxis q2w ▪ **Arm C**: Episodic FVIII treatment; switch to Hemlibra prophylaxis possible after 24 weeks Patients on FVIII prophylaxis prior to study entry: ▪ **Arm D**: Hemlibra prophylaxis qw	Multicenter, open-label, non-randomized study to assess the efficacy, safety, pharmacokinetics, and pharmacodynamics of Hemlibra administered every 4 weeks. ▪ **Part 1:** Pharmacokinetic (PK) run-in part (N=6) ▪ **Part 2:** Expansion part (N=40)
Primary endpoint	▪ Number of bleeds over 24 weeks	▪ Number of bleeds over 24 weeks
Status	▪ FPI Q3 2016 ▪ Recruitment completed Q2 2017 ▪ Study met primary and key secondary endpoints Q4 2017	▪ FPI Q1 2017 ▪ Recruitment completed Q2 2017 ▪ PK run-in data at ASH 2017 ▪ Positive interim analysis outcome reported Q4 2017
CT Identifier	NCT02847637	NCT03020160

In collaboration with Chugai
ASH=American Society of Hematology

Alecensa (alectinib, RG7853, AF802)

New CNS-active inhibitor of anaplastic lymphoma kinase

Indication	Treatment-naïve ALK-positive advanced NSCLC	ALK-positive advanced NSCLC in ALK inhibitor-naïve patients who are chemotherapy-naïve or have received one previous line of chemotherapy	ALK-positive crizotinib-naïve advanced NSCLC
Phase/study	**Phase III** **ALEX**	**Phase III** **J-ALEX/Japic CTI-132316** Japanese study	**Phase I/II** **AF-001JP** Japanese study
# of patients	N=286	N=207	N=70
Design	▪ **ARM A**: Alecensa 600mg BID ▪ **ARM B**: Crizotinib 250mg BID	▪ **ARM A**: Alecensa 300mg BID ▪ **ARM B**: Crizotinib 250mg BID	▪ **Part 1**: Dose escalation monotherapy ▪ **Part 2**: Monotherapy; dose selected based on the results of Part 1
Primary endpoint	▪ Progression-free survival	▪ Progression-free survival	▪ Phase I: Determination of recommended dose ▪ Phase II: Safety and efficacy
Status	▪ Recruitment completed Q3 2015 ▪ Primary endpoint met Q1 2017 ▪ Data presented at ASCO 2017 ▪ Results published in *NEJM* 2017 June; 377:829-838 ▪ CNS data presented at ESMO 2017	▪ Primary analysis positive ▪ Data presented at ASCO 2016 ▪ Breakthrough Therapy Designation granted by FDA Q3 2016 ▪ Results published in *Lancet* 2017 Jul; 390(10089):29–39	▪ Results published in *Lancet Oncology* 2013 Jun; 14(7):590-8 ▪ Approved in Japan July 2014
	▪ Approved by the FDA Q4 2017 after priority review ▪ Approved in EU Q4 2017		
CT Identifier	NCT02075840	JapicCTI-132316	JapicCTI-101264

In collaboration with Chugai

NSCLC=non-small cell lung cancer; ASCO=American Society of Clinical Oncology; ESMO=European Society for Medical Oncology

Alecensa (alectinib, RG7853, AF802)

New CNS-active inhibitor of anaplastic lymphoma kinase

Indication	ALK-positive advanced NSCLC after progression on crizotinib treatment	ALK-positive advanced NSCLC after progression on crizotinib treatment
Phase/study	**Phase I/II** **AF-002JG/NP28761** US study	**Phase I/II** **ACCALIA/NP28673** Global study
# of patients	Phase I: N=36 Phase II: N=85	N=130
Design	▪ **Part 1**: Dose escalation monotherapy ▪ **Part 2**: Monotherapy, dose selected based on results of Part 1	▪ **Part 1**: Dose escalation monotherapy ▪ **Part 2**: Monotherapy, dose selected based on results of Part 1
Primary endpoint	▪ Phase I: Determination of recommended dose ▪ Phase II: Safety and efficacy	▪ Phase I: Determination of recommended dose ▪ Phase II: Safety and efficacy
Status	▪ Phase I full cohort, including CNS data, published in *Lancet Oncology* 2014 Sep; 15(10):1119-28 ▪ Primary analysis positive Q1 2015 ▪ Data presented at ASCO 2015 ▪ Updated data presented at WCLC 2015	▪ Primary analysis positive Q4 2014, updated analysis in Q1 2015 ▪ Data presented at ASCO 2015 ▪ Updated data presented at ECC 2015 and ESMO 2016 ▪ Results published in the *Journal of Clinical Oncology* 2016 Mar; 34(7):661-668
	▪ Breakthrough Therapy Designation granted by FDA Q2 2013 ▪ Approved by the FDA Q4 2015 after priority review ▪ Approved in EU Q1 2017	
CT Identifier	NCT01871805	NCT01801111

In collaboration with Chugai

NSCLC=non-small cell lung cancer; ASCO=American Society of Clinical Oncology; WCLC=World Conference on Lung Cancer; ECC=European Cancer Congress; ESMO=European Society for Medical Oncology

Cotellic (cobimetinib)

Selective small molecule inhibitor of MAPK kinase

Indication	First-line metastatic triple negative breast cancer	Relapsed or refractory AML not eligible for cytotoxic therapy
Phase/study	**Phase II COLET**	**Phase I/II**
# of patients	N=160	N=140
Design	▪ **ARM A:** Cotellic plus paclitaxel ▪ **ARM B:** Placebo plus paclitaxel ▪ **ARM C:** Cotellic plus Tecentriq plus nab-paclitaxel ▪ **ARM D:** Cotellic plus Tecentriq plus paclitaxel	Phase I (dose escalation) ▪ **ARM A:** Cotellic plus Venclexta[1] ▪ **ARM B:** Idasanutlin plus Venclexta[1] Phase II (expansion) ▪ **ARM A:** Cotellic plus Venclexta[1] ▪ **ARM B:** Idasanutlin plus Venclexta[1]
Primary endpoint	▪ Progression-free survival and safety	▪ Safety and efficacy
Status	▪ FPI Q1 2015 ▪ FPI Arms C and D: Q4 2016 ▪ Data from Arm A and B presented at SABCS 2017	▪ FPI Q1 2016
CT Identifier	NCT02322814	NCT02670044

In collaboration with Exelixis; [1]Joint project with AbbVie, in collaboration with The Walter and Eliza Hall Institute
AML=acute myeloid leukemia; SABCS=San Antonio Breast Cancer Symposium

Cotellic (cobimetinib)

Selective small molecule inhibitor of MAPK kinase

Indication	First-line BRAFv600 mutation-positive metastatic or unresectable locally advanced melanoma	First-line BRAF-WT metastatic or unresectable locally advanced melanoma	Previously untreated metastatic melanoma BRAF mutation-positive	BRAF-WT metastatic or unresectable locally advanced melanoma after immunotherapy
Phase/study	**Phase III IMspire150 TRILOGY**	**Phase III IMspire170**	**Phase I**	**Phase Ib**
# of patients	N=500	N=500	N=70	N=42
Design	Double-blind, randomized, placebo-controlled study ▪ **ARM A:** Tecentriq plus Cotellic plus Zelboraf[1] ▪ **ARM B:** Placebo plus Cotellic plus Zelboraf[1]	▪ **ARM A:** Cotellic plus Tecentriq ▪ **ARM B:** Pembrolizumab	▪ Dose-finding study of Cotellic plus Tecentriq plus Zelboraf[1] and Tecentriq plus Zelboraf[1] combinations	▪ Preliminary efficacy of Cotellic plus Tecentriq in patients who have progressed on prior aPD-1 therapy
Primary endpoint	▪ Progression-free survival	▪ Progression-free survival and overall survival	▪ Safety and PK	▪ Objective response rate and disease control rate
Status	▪ FPI Q1 2017	▪ FPI Q4 2017	▪ FPI Q4 2012 ▪ Data presented at ESMO 2016	▪ FPI Q2 2017
CT Identifier	NCT02908672	NCT03273153	NCT01656642	NCT03178851

In collaboration with Exelixis; [1]Zelboraf In collaboration with Plexxikon, a member of Daiichi Sankyo Group
ESMO=European Society for Medical Oncology

Gazyva/Gazyvaro (obinutuzumab)

Oncology development program

Indication	Diffuse large B-cell lymphoma	Indolent non-Hodgkin's lymphoma MabThera/Rituxan refractory	Front-line indolent non-Hodgkin's lymphoma
Phase/study	**Phase III GOYA**	**Phase III GADOLIN** Induction and maintenance study	**Phase III GALLIUM** Induction and maintenance study
# of patients	N=1,418	N=411	N=1,401
Design	▪ **ARM A:** Gazyva 1000mg IV plus CHOP ▪ **ARM B:** MabThera/Rituxan plus CHOP	▪ **ARM A:** Gazyva 1000mg IV plus bendamustine followed by Gazyva maintenance ▪ **ARM B:** Bendamustine	▪ **ARM A:** Gazyva 1000mg IV + chemo followed by Gazyva maintenance ▪ **ARM B:** MabThera/Rituxan + chemo followed by MabThera/Rituxan maintenance *Chemotherapy:* ▪ For follicular lymphoma (FL): CHOP, CVP or bendamustine ▪ For non-FL: physician's choice
Primary endpoint	▪ Progression-free survival	▪ Progression-free survival	▪ Progression-free survival in FL patients (N=1,202)
Status	▪ Final analysis: Primary endpoint not met Q3 2016 ▪ Data presented at ASH 2016	▪ Trial stopped at interim for efficacy Q1 2015 ▪ Approved by the FDA Q1 2016 after priority review and by EMA Q2 2016 ▪ Data presented at ASH 2016 ▪ Results published in the *Lancet Oncology* 2016 Aug; 17(8):1081-93	▪ Trial stopped at interim for efficacy (May 2016) ▪ Data presented at ASH 2016 ▪ Approved in EU Q3 2017 ▪ Approved by the FDA Q4 2017 after priority review ▪ Results published in *NEJM* 2017 Oct 5;377(14):1331-1344
CT Identifier	NCT01287741	NCT01059630	NCT01332968

In collaboration with Biogen

ASH=American Society of Hematology; CHOP=cyclophosphamide, doxorubicin, vincristine and prednisone; CVP=cyclophosphamide, vincristine and prednisolone

Kadcyla

First ADC for HER2-positive breast cancer

Indication	HER2-positive early breast cancer high-risk patients	Operable HER2-positive early breast cancer	HER2-positive 2L metastatic breast cancer
Phase/study	**Phase III KATHERINE**	**Phase III KAITLIN**	**Phase II KATE2**
# of patients	N=1,484	N=1,850	N=200
Design	▪ **ARM A:** Kadcyla 3.6mg/kg Q3W ▪ **ARM B:** Herceptin	Following surgery and antracycline-based therapy: ▪ **ARM A:** Herceptin 6mg/kg Q3W plus Perjeta 420 mg/kg Q3W plus chemo ▪ **ARM B:** Kadcyla 3.6mg/kg Q3W plus Perjeta 420mg/kg Q3W plus chemo	▪ **ARM A:** Kadcyla plus Tecentriq ▪ **ARM B:** Kadcyla plus placebo
Primary endpoint	▪ Invasive disease-free survival	▪ Invasive disease-free survival	▪ Progression-free survival
Status	▪ Recruitment complete Q4 2015 ▪ Data expected in 2018	▪ Recruitment complete Q2 2015 ▪ Data expected in 2019	▪ FPI Q3 2016 ▪ Recruitment completed Q3 2017 ▪ Study did not meet primary endpoint Q4 2017
CT Identifier	NCT01772472	NCT01966471	NCT02924883

In collaboration with ImmunoGen, Inc.
ADC=antibody drug conjugate

Perjeta

First-in-class HER2 dimerization inhibitor

Indication	Adjuvant HER2-positive breast cancer	Neoadjuvant/adjuvant HER2-positive breast cancer	Early breast cancer
Phase/study	**Phase III** **APHINITY**	**Phase II** **BERENICE**	**Phase I**
# of patients	N=4,803	N=401	N=88
Design	▪ **ARM A:** Perjeta (840mg loading, 420 q3w) plus Herceptin for 52 weeks plus chemotherapy (6-8 cycles) ▪ **ARM B**: Placebo plus Herceptin (52 weeks) plus chemotherapy (6-8 cycles)	*Neoadjuvant treatment:* ▪ **ARM A:** ddAC q2w x4 cycles followed by weekly paclitaxel for 12 weeks, with P+H x4 cycles ▪ **ARM B:** FEC plus P+H x4 cycles followed by docetaxel plus P+H x4 cycles *Adjuvant treatment:* ▪ P+H q3w to complete 1 year of HER2 therapy ▪ Hormonal and radiation therapy as indicated	▪ Subcutaneous dose-finding study in combination with Herceptin in healthy volunteers with early breast cancer
Primary endpoint	▪ Invasive disease-free survival (IDFS)	▪ Safety	▪ PK
Status	▪ Recruitment completed Q3 2013 ▪ Primary endpoint met Q1 2017 ▪ Data presented at ASCO 2017 ▪ Results published in *NEJM* 2017 Jul 13; 377(2):122-131 ▪ Filed in the US and EU Q3 2017 ▪ Approved by the FDA Q4 2017 after priority review	▪ Recruitment completed Q3 2015 ▪ Data presented at SABCS 2016	▪ FPI Q2 2016
CT Identifier	NCT01358877	NCT02132949	NCT02738970

ddAC=dose-dense doxorubicin plus cyclophosphamide; FEC=fluorouracil, epirubicin and cyclophosphamide;
ASCO=American Society of Clinical Oncology; SABCS=San Antonio Breast Cancer Symposium

Tecentriq (atezolizumab, RG7446)

Anti-PD-L1 cancer immunotherapy – lung cancer

Indication	1L non-squamous NSCLC		
Phase/study	**Phase III IMpower150**	**Phase III IMpower130**	**Phase III IMpower132**
# of patients	N=1,202	N=650	N=568
Design	▪ **ARM A:** Tecentriq plus paclitaxel plus carboplatin ▪ **ARM B**: Tecentriq plus Avastin plus paclitaxel plus carboplatin ▪ **ARM C**: Avastin plus paclitaxel plus carboplatin	▪ **ARM A:** Tecentriq plus nab-paclitaxel plus carboplatin ▪ **ARM B**: Nab-paclitaxel plus carboplatin	▪ **ARM A:** Tecentriq plus carboplatin or cisplatin plus pemetrexed ▪ **ARM B**: Carboplatin or cisplatin plus pemetrexed
Primary endpoint	▪ Progression-free survival and overall survival	▪ Progression-free survival and overall survival	▪ Progression-free survival and overall survival
Status	▪ FPI Q2 2015 ▪ Recruitment completed Q4 2016 ▪ Study met co-primary endpoint of PFS in Q4 2017 ▪ Data presented at ESMO IO 2017	▪ FPI Q1 2015 ▪ Recruitment completed Q1 2017	▪ FPI Q2 2016 ▪ Recruitment completed Q2 2017
CT Identifier	NCT02366143	NCT02367781	NCT02657434

NSCLC=non-small cell lung cancer; NSq=non-squamous

Tecentriq (atezolizumab, RG7446)

Anti-PD-L1 cancer immunotherapy – lung cancer

Indication	1L non-squamous and squamous NSCLC PD-L1-selected patients	1L squamous NSCLC	1L extensive-stage SCLC
Phase/study	**Phase III IMpower110**	**Phase III IMpower131**	**Phase III IMpower133**
# of patients	N=570	N=1,025	N=400
Design	▪ **ARM A:** Tecentriq monotherapy ▪ **ARM B**: *NSq*: carboplatin or cisplatin plus pemetrexed *Sq:* carboplatin or cisplatin plus gemcitabine	▪ **ARM A:** Tecentriq plus paclitaxel plus carboplatin ▪ **ARM B**: Tecentriq plus nab-paclitaxel plus carboplatin ▪ **ARM C**: Nab-paclitaxel plus carboplatin	▪ **ARM A:** Tecentriq plus carboplatin plus etoposide ▪ **ARM B**: Placebo plus carboplatin plus etoposide
Primary endpoint	▪ Overall survival	▪ Progression-free survival and overall survival	▪ Progression-free survival and overall survival
Status	▪ FPI Q3 2015 ▪ IMpower111 consolidated into IMpower110 Q3 2016	▪ FPI Q2 2015 ▪ Recruitment completed Q1 2017	▪ FPI Q2 2016 ▪ Orphan drug designation granted by FDA October 2016 ▪ Recruitment completed Q2 2017
CT Identifier	NCT02409342	NCT02367794	NCT02763579

NSCLC=non-small cell lung cancer; NSq=non-squamous; SCLC=small cell lung cancer

Tecentriq (atezolizumab, RG7446)

Anti-PD-L1 cancer immunotherapy – lung cancer

Indication	Adjuvant NSCLC	1L non-squamous NSCLC
Phase/study	**Phase III** **IMpower010**	**Phase II/III** **B-FAST**
# of patients	N=1,127	N=580
Design	Following adjuvant cisplatin-based chemotherapy ▪ **ARM A:** Tecentriq ▪ **ARM B**: Best supportive care	▪ **Cohort A:** ALK+ (Alecensa[1]) ▪ **Cohort B:** RET+ (Dose finding and expansion of Alecensa[1]) ▪ **Cohort C:** bTMB-high (Tecentriq)
Primary endpoint	▪ Disease-free survival	▪ Cohort A/B: Objective response rate ▪ Cohort C: Progression-free survival
Status	▪ FPI Q3 2015 ▪ Trial amended from PD-L1-selected patients to all-comers ▪ FPI for all-comer population Q4 2016	▪ FPI Q3 2017
CT Identifier	NCT02486718	NCT03178552

[1] In collaboration with Chugai
TMB=tumour mutational burden in blood

Tecentriq (atezolizumab, RG7446)

Anti-PD-L1 cancer immunotherapy – lung cancer

Indication	2L metastatic NSCLC	Locally advanced or metastatic NSCLC (2L/3L)	Locally advanced or metastatic NSCLC PD-L1 positive	Locally advanced or metastatic NSCLC PD-L1 positive	NSCLC
Phase/study	**Phase III OAK**	**Phase II POPLAR**	**Phase II BIRCH**	**Phase II FIR**	**Phase I**
# of patients	N=1,225	N=287	N=667	N=130	N=53
Design	▪ **ARM A:** Tecentriq 1200mg q3w ▪ **ARM B:** Docetaxel	▪ **ARM A**: Tecentriq 1200mg q3w ▪ **ARM B**: Docetaxel	Single arm study: ▪ Tecentriq 1200mg q3w	Single arm study: ▪ Tecentriq 1200mg q3w	▪ Tecentriq plus Tarceva[1] or Alecensa
Primary endpoint	▪ Overall survival	▪ Overall survival	▪ Objective response rate	▪ Objective response rate	▪ Safety
Status	▪ Recruitment completed Q2 2015 ▪ Data presented at ESMO 2016 ▪ Data filed with FDA Q3 2016 ▪ Results published in *Lancet* 2017 Jan; 389(10066):255–265 ▪ Data presented at ASCO 2017	▪ Recruitment completed Q2 2014 ▪ Data presented at ASCO 2015 (interim) and ECC 2015 (primary) ▪ Results published in *Lancet* 2017 Apr 30; 387 (10030):1837-46 ▪ Updated data presented at ASCO 2016	▪ Recruitment completed Q4 2014 ▪ Primary analysis presented at ECC 2015 ▪ Results published in *Journal of Clinical Oncology* 2017 Aug 20; 35(24):2781-2789	▪ Recruitment completed Q2 2014 ▪ Data presented at ASCO 2015	▪ FPI Q1 2014 ▪ FPI in Alecensa arm Q3 2015 ▪ Recruitment completed in Tarceva arm Q3 2015 ▪ Data from Tarceva presented at WCLC and ESMO Asia 2016
	▪ Approved by the FDA Q4 2016 after priority review				
	▪ Approved in EU Q3 2017				
CT Identifier	NCT02008227	NCT01903993	NCT02031458	NCT01846416	NCT02013219

[1] Tarceva is a registered trademark of OSI Pharmaceuticals, LLC, a subsidiary of Astellas US, LLC;
NSCLC=non-small cell lung cancer; ASCO=American Society of Clinical Oncology; ESMO=European Society for Medical Oncology; ECC=European Cancer Congress; WCLC=World Conference on Lung Cancer

Tecentriq (atezolizumab, RG7446)

Anti-PD-L1 cancer immunotherapy – UC

Indication	Adjuvant high-risk muscle-invasive urothelial cancer PD-L1-positive patients	1L metastatic urothelial carcinoma
Phase/study	**Phase III IMvigor010**	**Phase III IMvigor130**
# of patients	N=800	N=1,200
Design	After cystectomy: ▪ **ARM A:** Tecentriq monotherapy ▪ **ARM B**: Observation	▪ **ARM A:** Tecentriq plus gemcitabine and carboplatin or cisplatin ▪ **ARM B**: Placebo plus gemcitabine and carboplatin or cisplatin ▪ **ARM C**: Tecentriq monotherapy
Primary endpoint	▪ Disease-free survival	▪ Progression-free survival, overall survival and safety
Status	▪ FPI October 2015	▪ FPI Q3 2016 ▪ FPI for Arm C (amended study) Q1 2017
CT Identifier	NCT02450331	NCT02807636

UC=urothelial carcinoma

Tecentriq (atezolizumab, RG7446)

Anti-PD-L1 cancer immunotherapy – UC

Indication	Locally advanced or metastatic urothelial bladder cancer		High-risk non-muscle-invasive bladder cancer
Phase/study	**Phase III** **IMvigor211**	**Phase II** **IMvigor210**	**Phase Ib/II**
# of patients	N=932	N=439	N=70
Design	Patients who progressed on at least one platinum-containing regimen will receive: ▪ **ARM A:** Tecentriq 1200mg q3w ▪ **ARM B:** Chemotherapy (vinflunine, paclitaxel or docetaxel)	▪ **Cohort 1**: Treatment-naive and cisplatin-ineligible patients ▪ **Cohort 2**: Patients with disease progression following or during platinum-containing treatment	▪ **Cohort 1a:** Tecentriq (BCG-unresponsive NMIBC) ▪ **Cohort 1b:** Tecentriq + BCG (BCG-unresponsive NMIBC) ▪ **Cohort 2:** Tecentriq + BCG (BCG-relapsing NMIBC) ▪ **Cohort 3:** Tecentriq + BCG (BCG-naive NMIBC)
Primary endpoint	▪ Overall survival	▪ Objective response rate	▪ Safety and objective response rate
Status	▪ Recruitment completed Q1 2016 ▪ Data presented at EACR-AACR-SIC Special Conference 2017 ▪ Results published in *Lancet* in Dec 2017 [Epub ahead of print]	▪ Cohort 2: US accelerated approval Q2 2016; filed in EU Q2 2016 ▪ Cohort 2 results published in *Lancet* May 2016; 387(10031):p1909–1920 ▪ Updated data (Cohorts 1 and 2) presented at ESMO 2016 ▪ Cohort 1: Approved by the FDA Q2 2017 after priority review	▪ FPI Q2 2016
	▪ Approved in EU Q3 2017		
CT Identifier	NCT02302807	NCT02951767 (Cohort 1), NCT02108652 (Cohort 2)	NCT02792192

UC=urothelial carcinoma; ESMO=European Society for Medical Oncology; EACR-AACR-SIC=European Association for Cancer Research - American Association for Cancer Research - Italian Cancer Society; BCG=Bacille Calmette-Guérin; NMIBC=non-muscle invasive bladder cancer

Tecentriq (atezolizumab, RG7446)

Anti-PD-L1 cancer immunotherapy – renal cell cancer

Indication	Adjuvant renal cell carcinoma	Untreated advanced renal cell carcinoma	
Phase/study	**Phase III** **IMmotion010**	**Phase III** **IMmotion151**	**Phase II** **IMmotion150**
# of patients	N=664	N=900	N=305
Design	▪ **ARM A:** Tecentriq monotherapy ▪ **ARM B:** Observation	▪ **ARM A**: Tecentriq plus Avastin ▪ **ARM B**: Sunitinib	▪ **ARM A**: Tecentriq plus Avastin ▪ **ARM B**: Tecentriq; following PD: Tecentriq plus Avastin ▪ **ARM C**: Sunitinib; following PD: Tecentriq plus Avastin
Primary endpoint	▪ Disease-free survival	▪ Progression-free survival and overall survival (co-primary endpoint)	▪ Progression-free survival
Status	▪ FPI Q1 2017	▪ FPI Q2 2015 ▪ Recruitment completed Q4 2016 ▪ Study met co-primary endpoint (PFS in PD-L1+ patients) in Q4 2017 ▪ Data to be presented at ASCO GU 2018	▪ Recruitment completed Q1 2015 ▪ Presented at ASCO GU and AACR 2017 ▪ Updated data presented at ASCO 2017
CT Identifier	NCT03024996	NCT02420821	NCT01984242

ASCO GU=American Society of Clinical Oncology Genitourinary Cancers; AACR=American Association for Cancer Research; PD=progressive disease

Tecentriq (atezolizumab, RG7446)

Anti-PD-L1 cancer immunotherapy – prostate cancer

Indication	Metastatic castration-resistant prostate cancer	Metastatic castration-resistant prostate cancer
Phase/study	**Phase Ib**	**Phase III** **IMbassador250**
# of patients	N=45	N=730
Design	▪ Tecentriq plus radium-223 dichloride	▪ **ARM A:** Tecentriq plus enzalutamide ▪ **ARM B:** Enzalutamide
Primary endpoint	▪ Safety and tolerability	▪ Overall survival
Status	▪ FPI Q3 2016	▪ FPI Q1 2017
CT Identifier	NCT02814669	NCT03016312

Tecentriq (atezolizumab, RG7446)

Anti-PD-L1 cancer immunotherapy – colorectal cancer

Indication	Third-line advanced or metastatic colorectal cancer	2/3L metastatic colorectal cancer
Phase/study	**Phase III IMblaze370**	**Phase I**
# of patients	N=360	N=84
Design	▪ **ARM A**: Tecentriq plus Cotellic[1] ▪ **ARM B**: Tecentriq ▪ **ARM C**: Regorafenib	Open-label, single-arm, two-stage study with Cotellic[1] plus Tecentriq plus Avastin ▪ **Stage 1:** Safety run-in ▪ **Stage 2:** Dose-expansion with two cohorts; – Expansion – Biopsy
Primary endpoint	▪ Overall survival	▪ Safety
Status	▪ FPI Q2 2016 ▪ Recruitment completed Q1 2017	▪ FPI Q3 2016
CT Identifier	NCT02788279	NCT02876224

[1] Cotellic in collaboration with Exelixis

Tecentriq (atezolizumab, RG7446)

Anti-PD-L1 cancer immunotherapy – solid tumors

Indication	Solid tumors	Solid tumors	Solid tumors
Phase/study	**Phase I**	**Phase I**	**Phase I**
# of patients	N=291	N=225	N=151
Design	▪ **ARM A**: HCC: Tecentriq + Avastin ▪ **ARM B**: HER2-neg. GC: Tecentriq + Avastin + oxaliplatin + leucovorin + 5-FU ▪ **ARM C:** PaC: Tecentriq + nab-paclitaxel + gemcitabine ▪ **ARM D:** HCC: Tecentriq + vanucizumab or Tecentriq + Avastin ▪ **ARM E:** Squamous cell mEC: Tecentriq + 5FU-Cis and Tecentriq + FOLFOX; adenocarcinoma mEC: Tecentriq + FOLFOX	▪ **ARM A**: Tecentriq + Avastin ▪ **ARM B**: Tecentriq + Avastin + FOLFOX ▪ **ARM C**: Tecentriq + carboplatin + paclitaxel ▪ **ARM D**: Tecentriq + carboplatin+ pemetrexed ▪ **ARM E**: Tecentriq + carboplatin+ nab-paclitaxel ▪ **ARM F**: Tecentriq + nab-paclitaxel	▪ **ARM A:** Dose-finding Tecentriq plus Cotellic[1] ▪ **ARM B:** Dose-expansion Tecentriq plus Cotellic[1]
Primary endpoint	▪ Safety	▪ Safety and PK	▪ Safety
Status	▪ FPI April 2016 ▪ ARM D on hold ▪ FPI Arm E Q1 2017	▪ FPI Q2 2012 ▪ Updated data presented at AACR 2016 (CRC) and ASCO 2016 (TNBC, Arm F)	▪ FPI Q4 2013 ▪ CRC cohort data presented at ASCO 2016 and ESMO 2016 ▪ Updated CRC data presented at ASCO GI 2018
CT Identifier	NCT02715531	NCT01633970	NCT01988896

[1] Cotellic in collaboration with Exelixis

AACR=American Association for Cancer Research; ASCO=American Society of Clinical Oncology; ESMO=European Society for Medical Oncology; HCC=hepatocellular carcinoma; GC=gastric cancer; PaC=pancreatic cancer; mEC=metastatic esophageal cancer; CRC=colorectal cancer; TNBC=triple-negative breast cancer

Tecentriq (atezolizumab, RG7446)

Anti-PD-L1 cancer immunotherapy – solid tumors

Indication	Locally advanced or metastatic solid tumors	Locally advanced or metastatic solid tumors
Phase/study	**Phase I**	**Phase I**
# of patients	N=200	N=660
Design	▪ **ARM A:** Tecentriq plus ipilimumab ▪ **ARM B:** Tecentriq plus interferon alpha-2b ▪ **ARM C:** Tecentriq plus PEG-interferon alfa-2a ▪ **ARM D:** Tecentriq plus PEG-interferon alfa-2a plus Avastin ▪ **ARM E:** Tecentriq plus Gazyva	▪ Dose escalation study
Primary endpoint	▪ Safety	▪ Safety and PK
Status	▪ FPI Q3 2014	▪ FPI Q2 2011 ▪ Initial efficacy data presented at ASCO 2013 ▪ Data from bladder cohort presented at ASCO and ESMO 2014; TNBC cohort presented at AACR 2015; updated lung and bladder data presented at ASCO 2015; GBM data presented at SNO 2015; SCCHN data presented at ESMO 2017
CT Identifier	NCT02174172	NCT01375842

ASCO=American Society of Clinical Oncology; ESMO=European Society for Medical Oncology; AACR=American Association for Cancer Research; SNO=Society for Neuro-Oncology; TNBC=triple-negative breast cancer; GBM=glioblastoma multiforme; SCCHN=squamous cell carcinoma of the head and neck

Tecentriq (atezolizumab, RG7446)

Anti-PD-L1 cancer immunotherapy – breast cancer

Indication	Previously untreated metastatic triple negative breast cancer	Previously untreated metastatic triple negative breast cancer
Phase/study	**Phase III IMpassion130**	**Phase III IMpassion131**
# of patients	N=900	N=540
Design	▪ **ARM A**: Tecentriq plus nab-paclitaxel ▪ **ARM B**: Placebo plus nab-paclitaxel	▪ **ARM A**: Tecentriq plus paclitaxel ▪ **ARM B**: Placebo plus paclitaxel
Primary endpoint	▪ Progression-free survival and overall survival (co-primary endpoint)	▪ Progression-free survival and overall survival (co-primary endpoint)
Status	▪ FPI Q3 2015 ▪ Recruitment completed Q2 2017	▪ FPI Q3 2017
CT Identifier	NCT02425891	NCT03125902

Tecentriq (atezolizumab, RG7446)

Anti-PD-L1 cancer immunotherapy – breast cancer

Indication	Neoadjuvant triple negative breast cancer	Metastatic breast cancer and locally advanced early breast cancer HER2-positive
Phase/study	**Phase III** **IMpassion031**	**Phase I**
# of patients	N=204	N=76
Design	▪ **ARM A**: Tecentriq plus nab-paclitaxel ▪ **ARM B**: Placebo plus nab-paclitaxel	▪ **Cohort 1A** (mBC): Tecentriq plus Perjeta plus Herceptin ▪ **Cohort 1B** (mBC): Tecentriq plus Kadcyla[1] ▪ **Cohort 1F** (mBC): Tecentriq plus Perjeta plus Herceptin plus docetaxel ▪ **Cohort 2A** (eBC): Tecentriq plus Perjeta plus Herceptin ▪ **Cohort 2B** (eBC): Tecentriq plus Kadcyla[1] ▪ **Cohort 2C** (expansion on cohort 1B): Tecentriq plus Kadcyla[1]
Primary endpoint	▪ Percentage of participants with pathologic complete response (pCR)	▪ Safety
Status	▪ FPI Q3 2017	▪ FPI Q4 2015
CT Identifier	NCT03197935	NCT02605915

[1] In collaboration with ImmunoGen, Inc.
eBC=early breast cancer; mBC=metastatic breast cancer

Tecentriq (atezolizumab, RG7446)

Anti-PD-L1 cancer immunotherapy – ovarian cancer

Indication	Front-line ovarian cancer	Advanced gynecological cancers and platinum-sensitive ovarian cancer
Phase/study	**Phase III IMaGYN050**	**Phase Ib**
# of patients	N=1,300	N=48
Design	▪ **ARM A:** Tecentriq plus carboplatin plus paclitaxel plus Avastin ▪ **ARM B:** Carboplatin plus paclitaxel plus Avastin	▪ **Part 1**: Dose finding Tecentriq plus rucaparib (CO-338)[1] ▪ **Part 2:** Expansion Tecentriq plus rucaparib (CO-338)[1]
Primary endpoint	▪ Progression-free survival and overall survival (co-primary endpoint)	▪ Safety
Status	▪ FPI Q1 2017	▪ FPI Q2 2017
CT Identifier	NCT03038100	NCT03101280

[1] Rucaparib in collaboration with Clovis

Tecentriq (atezolizumab, RG7446)

Anti-PD-L1 cancer immunotherapy – hematology

Indication	Multiple myeloma	Myelodysplastic syndromes	Acute myeloid leukemia
Phase/study	**Phase I**	**Phase I**	**Phase Ib**
# of patients	N≈214	N=102	N=40
Design	▪ **ARM A**: Tecentriq monotherapy ▪ **ARM B:** Tecentriq plus lenalidomide ▪ **ARM C:** *disocntinued* ▪ **ARM D:** Tecentriq plus daratumumab[1] ▪ **ARM E:** Tecentriq plus lenalidomide plus daratumumab[1] ▪ **ARM F:** Tecentriq plus pomalidomide plus daratumumab vs dexamethasone plus pomalidomide plus daratumumab	▪ Tecentriq monotherapy and azacitidine combination cohorts	▪ Tecentriq plus guadecitabine (SGI-110)[2]
Primary endpoint	▪ Safety	▪ Safety	▪ Safety and efficacy
Status	▪ FPI Q3 2015 ▪ FPI daratumumab[1] cohorts Q3 2016	▪ FPI Q3 2015 ▪ Enrollment temporarily suspended	▪ FPI Q4 2016 ▪ Enrollment temporarily suspended
CT Identifier	NCT02431208	NCT02508870	NCT02892318

[1] Daratumumab cohorts in collaboration with Janssen; [2] SGI-110 in collaboration with Astex

Tecentriq (atezolizumab, RG7446)

Anti-PD-L1 cancer immunotherapy – hematology

Indication	1L FL and 1L DLBCL	Relapsed or refractory FL	Relapsed or refractory FL and DLBCL	Relapsed or refractory FL and DLBCL
Phase/study	**Phase I**	**Phase I**	**Phase I**	**Phase I/II**
# of patients	N=92	N=46	N=91	N=86
Design	▪ Tecentriq plus Gazyva plus bendamustine ▪ Tecentriq plus Gazyva plus CHOP	▪ Tecentriq plus Gazyva plus lenalidomide	▪ **ARM 1:** Tecentriq plus Gazyva ▪ **ARM 2:** Tecentriq plus tazemetostat[1]	▪ **Dose escalation:** Tecentriq plus Gazyva/Rituxan plus polatuzumab vedotin[2] ▪ **Expansion:** Tecentriq plus Gazyva/Rituxan plus polatuzumab vedotin[2]
Primary endpoint	▪ Safety and efficacy	▪ Safety and efficacy	▪ Safety	▪ Safety and efficacy
Status	▪ FPI Q4 2015	▪ FPI Q4 2015	▪ FPI Q4 2014 ▪ FPI ARM2 Q1 2017	▪ FPI FL Q4 2016 ▪ Study amended to change from Gazyva to Rituxan for DLBCL ▪ FPI DLBCL Q1 2017
CT Identifier	NCT02596971	NCT02631577	NCT02220842	NCT02729896

[1] Tazemetostat tested for r/r DLBCL in collaboration with Epizyme; [2] Polatuzumab vedotin in collaboration with Seattle Genetics;
FL=follicular lymphoma; DLBCL=diffuse large B cell lymphoma

Venclexta (venetoclax, RG7601, ABT-199)

Novel small molecule Bcl-2 selective inhibitor – CLL

Indication	Untreated CLL patients with coexisting medical conditions	Relapsed or refractory CLL	Relapsed or refractory CLL with 17p deletion
Phase/study	**Phase III CLL14**	**Phase III MURANO**	**Phase II**
# of patients	N=432	N=391	N=100
Design	▪ **ARM A**: Venclexta plus Gazyva ▪ **ARM B**: Chlorambucil plus Gazyva	▪ **ARM A**: Venclexta plus Rituxan ▪ **ARM B**: Rituxan plus bendamustine	▪ Single-agent Venclexta
Primary endpoint	▪ Progression-free survival	▪ Progression-free survival	▪ Safety and maximum tolerated dose (MTD)
Status	▪ FPI Q4 2014 ▪ Recruitment completed Q3 2016	▪ Recruitment completed Q3 2015 ▪ Study met primary endpoint at interim analysis ▪ Data presented at ASH 2017 ▪ Filed in US Q4 2017 and EU Q1 2018	▪ Breakthrough Therapy Designation granted by FDA Q2 2015 ▪ Approved by the FDA Q2 2016 after priority review ▪ Approved in EU Q4 2016
CT Identifier	NCT02242942	NCT02005471	NCT01889186

Joint project with AbbVie, in collaboration with The Walter and Eliza Hall Institute
CLL=chronic lymphocytic leukemia

Venclexta (venetoclax, RG7601, ABT-199)

Novel small molecule Bcl-2 selective inhibitor – CLL

Indication	Relapsed or refractory CLL	Relapsed or refractory or previously untreated CLL	Relapsed or refractory or previously untreated CLL
Phase/study	**Phase II**	**Phase Ib**	**Phase Ib**
# of patients	N=120	N=100	N=90
Design	▪ Venclexta after ibrutinib therapy ▪ Venclexta after idelalisib therapy	▪ Venclexta in combination with MabThera/Rituxan and bendamustine	▪ Venclexta in combination with Gazyva
Primary endpoint	▪ Overall response rate	▪ Safety and maximum tolerated dose	▪ Safety and maximum tolerated dose
Status	▪ FPI Q3 2014 ▪ Data presented at ASH 2015 ▪ Updated data presented at ASCO 2016	▪ FPI Q2 2013 ▪ Data presented at ASH 2015	▪ FPI Q1 2014 ▪ Data presented at ASH 2015 and ASH 2017
CT Identifier	NCT02141282	NCT01671904	NCT01685892

Joint project with AbbVie, in collaboration with The Walter and Eliza Hall Institute
CLL=chronic lymphocytic leukemia; ASH=American Society of Hematology; ASCO=American Society of Clinical Oncology

Venclexta (venetoclax, RG7601, ABT-199)

Novel small molecule Bcl-2 selective inhibitor – NHL

Indication	Relapsed or refractory FL	B cell NHL and front-line DLBCL
Phase/study	**Phase II** **CONTRALTO**	**Phase I/II** **CAVALLI**
# of patients	N=165	N=248
Design	▪ **ARM A:** Venclexta plus Rituxan ▪ **ARM B:** Venclexta plus Rituxan plus bendamustine ▪ **ARM C:** Rituxan plus bendamustine	Phase I (dose finding, patients with B cell NHL): ▪ **ARM A:** Venclexta plus R-CHOP ▪ **ARM B:** Venclexta plus G-CHOP Phase II (expansion, patients with 1L DLBCL): ▪ Venclexta plus R-CHOP
Primary endpoint	▪ Overall response rate	▪ Safety and efficacy
Status	▪ FPI Q4 2014 ▪ Data presented at ASH 2016	▪ FPI Q2 2014 ▪ Data presented at ASCO 2016 and ASH 2016
CT Identifier	NCT02187861	NCT02055820

Joint project with AbbVie, in collaboration with The Walter and Eliza Hall Institute

FL=follicular lymphoma; DLBCL=diffuse large B cell lymphoma; NHL=non-Hodgkin's lymphoma; CHOP=cyclophosphamide, doxorubicin, vincristine and prednisone; R=Rituxan/MabThera; G=Gazyva; ASH=American Society of Hematology; ASCO=American Society of Clinical Oncology

Venclexta (venetoclax, RG7601, ABT-199)

Novel small molecule Bcl-2 selective inhibitor – AML

Indication	Treatment-naïve AML not eligible for standard induction therapy			
Phase/study	**Phase Ib**	**Phase I/II**	**Phase III Viale-A**	**Phase III Viale-C**
# of patients	N=160	N=65	N=400	N=175
Design	▪ Venclexta (dose escalation) plus decitabine ▪ Venclexta (dose escalation) plus azacitidine ▪ Venclexta (dose escalation) plus decitabine plus posaconazole	▪ Venclexta (dose escalation) plus low-dose cytarabine	▪ **ARM A:** Venclexta plus azacitidine ▪ **ARM B:** Azacitidine	▪ **ARM A:** Venclexta plus low-dose cytarabine ▪ **ARM B:** Low-dose cytarabine
Primary endpoint	▪ Safety	▪ Safety, PK, PD and efficacy	▪ Percentage of participants with CR, Overall survival	▪ Overall survival
Status	▪ FPI Q4 2014 ▪ Data presented at ASH 2015 ▪ Breakthrough Therapy Designation granted by FDA Q1 2016 ▪ Updated data presented at ASCO 2016	▪ FPI Q1 2015 ▪ Initial data presented at ASCO 2016 ▪ Updated data presented at ASH 2016 and ASH 2017 ▪ Breakthrough Therapy Designation granted by FDA Q3 2017	▪ FPI Q1 2017	▪ FPI Q2 2017
CT Identifier	NCT02203773	NCT02287233	NCT02993523	NCT03069352

Joint project with AbbVie, in collaboration with The Walter and Eliza Hall Institute

AML=acute myeloid leukemia; ASH=American Society of Hematology; ASCO=American Society of Clinical Oncology

Venclexta (venetoclax, RG7601, ABT-199)

Novel small molecule Bcl-2 selective inhibitor – AML

Indication	AML	Relapsed or refractory AML not eligible for cytotoxic therapy
Phase/study	**Phase II**	**Phase Ib/II**
# of patients	N=32	N=140
Design	▪ Dose escalation of Venclexta	Phase I (dose escalation): ▪ **ARM A:** Cotellic[1] plus Venclexta ▪ **ARM B:** Idasanutlin plus Venclexta Phase II (expansion): ▪ **ARM A:** Cotellic[1] plus Venclexta ▪ **ARM B:** Idasanutlin plus Venclexta
Primary endpoint	▪ Overall response rate	▪ Safety and efficacy
Status	▪ FPI Q4 2013 ▪ Data presented at ASH 2014 ▪ Updated data presented at ASCO 2016	▪ FPI Q1 2016 ▪ Data presented at ASH 2017
CT Identifier	NCT01994837	NCT02670044

Joint project with AbbVie, in collaboration with The Walter and Eliza Hall Institute; [1] Cotellic in collaboration with Exelixis
AML=acute myeloid leukemia; ASH=American Society of Hematology; ASCO=American Society of Clinical Oncology

Venclexta (venetoclax, RG7601, ABT-199)

Novel small molecule Bcl-2 selective inhibitor – MM

Indication	Relapsed or refractory multiple myeloma		
Phase/study	**Phase III BELLINI**	**Phase I**	**Phase I**
# of patients	N=240	N=66	N=84
Design	▪ **ARM A**: Venclexta plus bortezomib plus dexamethasone ▪ **ARM B**: Placebo plus bortezomib plus dexamethasone	Patients receiving bortezomib and dexamethasone as standard therapy: ▪ **Dose escalation cohort:** Venclexta plus bortezomib plus dexamethasone ▪ **Safety expansion cohort:** Venclexta plus bortezomib plus dexamethasone	▪ **Dose escalation cohort:** Venclexta dose escalation ▪ **Safety expansion cohort (t11:14):** Venclexta expansion ▪ **Combination:** Venclexta plus dexamethasone
Primary endpoint	▪ Progression-free survival	▪ Safety and maximum tolerated dose	▪ Safety and maximum tolerated dose
Status	▪ FPI Q3 2016 ▪ Enrollment completed Q4 2017	▪ FPI Q4 2012 ▪ Data presented at ASCO 2015 ▪ Updated data presented at ASCO 2016 and ASH 2016	▪ FPI Q4 2012 ▪ Data presented at ASCO 2015 ▪ Updated data presented at ASCO 2016 and ASH 2016
CT Identifier	NCT02755597	NCT01794507	NCT01794520

Joint project with AbbVie, in collaboration with The Walter and Eliza Hall Institute

MM=multiple myeloma; ASCO=American Society of Clinical Oncology; ASH=American Society of Hematology

Venclexta (venetoclax, RG7601, ABT-199)

Novel small molecule Bcl-2 selective inhibitor – MDS

Indication	Myelodysplastic syndromes after azacitidine failure	Treatment-naive myelodysplastic syndromes
Phase/study	**Phase Ib**	**Phase II**
# of patients	N=66	N=90
Design	Cohort 1: ▪ **ARM A:** Venclexta 400 mg ▪ **ARM B:** Venclexta 800 mg Cohort 2: ▪ **ARM A:** Venclexta plus azacitidine Study expansion: ▪ Venclexta or Venclexta plus azacitidine	▪ **ARM A:** Venclexta 400 mg plus azacitidine ▪ **ARM B:** Venclexta 800 mg plus azacitidine ▪ **ARM C:** Azacitidine
Primary endpoint	▪ Safety, PK/PD, efficacy	▪ Overall response rate
Status	▪ FPI Q1 2017	▪ FPI Q1 2017
CT Identifier	NCT02966782	NCT02942290

Joint project with AbbVie, in collaboration with The Walter and Eliza Hall Institute
MDS=myelodysplastic syndromes

Ocrevus (ocrelizumab, RG1594)

Humanized mAb selectively targeting CD20+ B cells

Indication	Relapsing multiple sclerosis (RMS)		Primary-progressive multiple sclerosis (PPMS)
Phase/study	**Phase III OPERA I**	**Phase III OPERA II**	**Phase III ORATORIO**
# of patients	N=821	N=835	N=732
Design	96-week treatment period: ▪ **ARM A:** Ocrelizumab 2x 300 mg iv followed by 600 mg iv every 24 weeks ▪ **ARM B:** Interferon β-1a	96-week treatment period: ▪ **ARM A:** Ocrelizumab 2x 300 mg iv followed by 600 mg iv every 24 weeks ▪ **ARM B:** Interferon β-1a	120-week treatment period: ▪ **ARM A:** Ocrelizumab 2x 300 mg iv every 24 weeks ▪ **ARM B:** Placebo
Primary endpoint	▪ Annualized relapse rate at 96 weeks versus Rebif	▪ Annualized relapse rate at 96 weeks versus Rebif	▪ Sustained disability progression versus placebo by Expanded Disability Status Scale (EDSS)
Status	▪ Primary endpoint met Q2 2015 ▪ Data presented at ECTRIMS 2015 ▪ Updated data presented at AAN and ECTRIMS 2017 ▪ Results published in *NEJM*, 2017 Jan 19;376(3):221-234	▪ Primary endpoint met Q2 2015 ▪ Data presented at ECTRIMS 2015 ▪ Updated data presented at AAN and ECTRIMS 2017	▪ Primary endpoint met Q3 2015 ▪ Data presented at ECTRIMS 2015 ▪ Updated data presented at AAN and ECTRIMS 2017 ▪ Results published in *NEJM*, 2017 Jan 19;376(3):209-220
	▪ Approved in US Q1 2017 ▪ Positive CHMP opinion Q4 2017, approved in EU Jan 2018		
CT Identifier	NCT01247324	NCT01412333	NCT01194570

ECTRIMS=European Committee for Treatment and Research in Multiple Sclerosis; AAN=Annual Meeting of the American Academy of Neurology

Actemra/RoActemra

Interleukin-6 receptor inhibitor

Indication	Systemic sclerosis	Giant cell arteritis
Phase/study	**Phase III** **focuSSced**	**Phase III** **GiACTA**
# of patients	N=210	N=250
Design	Blinded 48-week treatment with weekly dosing: ▪ **ARM A:** Actemra SC 162mg ▪ **ARM B:** Placebo SC Open-label weekly dosing at weeks 49 to 96: ▪ Actemra SC 162mg	Part 1: 52-week blinded period ▪ **ARM A:** Actemra SC 162mg qw plus 26 weeks prednisone taper ▪ **ARM B:** Actemra SC 162mg q2w plus 26 weeks prednisone taper ▪ **ARM C:** Placebo plus 26 weeks prednisone taper ▪ **ARM D:** Placebo plus 52 weeks prednisone taper Part II: ▪ 104-wk open label extension: patients in remission followed off of the study drug; Patients with active disease receive open label Actemra SC 162mg qw
Primary endpoint	▪ Change in modified Rodnan skin score (mRSS) at week 48	▪ Proportion of patients in sustained remission at week 52
Status	▪ FPI Q4 2015 ▪ Breakthrough Therapy Designation granted by FDA Q1 2015 ▪ Recruitment completed Q1 2017	▪ Recruitment completed Q2 2015 ▪ Primary and key secondary endpoints met Q2 2016 ▪ Breakthrough Therapy Designation granted by FDA Q3 2016 ▪ Data presented at ACR 2016 ▪ Filed globally Q4 2016; approved in US Q2 2017; approved in EU Q3 2017 ▪ Results published in *NEJM*, 2017 Jul 27;377(4):317-328
CT Identifier	NCT02453256	NCT01791153

In collaboration with Chugai
ACR=American College of Rheumatology

MabThera/Rituxan

Immunology development program

Indication	Moderate to severely active pemphigus vulgaris
Phase/study	**Phase III** **PEMPHIX**
# of patients	N=132
Design	▪ **ARM A:** Rituxan ▪ **ARM B:** Mycophenolate mofetil
Primary endpoint	▪ Proportion of patients who achieve sustained complete remission
Status	▪ FPI Q2 2015 ▪ Breakthrough Therapy Designation granted by FDA in Q1 2017 ▪ Results published in *Lancet* 2017 Mar; 389(10083): p2031–2040 ▪ Enrollment completed Q4 2017
CT Identifier	NCT02383589

Obinutuzumab (GA101, RG7159)

Immunology development program

Indication	Lupus nephritis
Phase/study	**Phase II** **NOBILITY**
# of patients	N=120
Design	▪ **ARM A:** Obinutuzumab 1000mg IV plus mycophenolate mofetil ▪ **ARM B:** Placebo IV plus mycophenolate mofetil
Primary endpoint	▪ Percentage of participants who achieve complete renal response (CRR)
Status	▪ FPI Q4 2015 ▪ Enrollment completed Q4 2017
CT Identifier	NCT02550652

In collaboration with Biogen

Xolair

Humanized mAb that selectively binds to IgE

Indication	Chronic rhinosinusitis with nasal polyps	
Phase/study	**Phase III** **POLYP 1**	**Phase III** **POLYP 2**
# of patients	N=120	N=120
Design	Placebo-controlled study of Xolair in adult patients with chronic rhinosinusitis with nasal polyps (CRSwNP) who have had an inadequate response to standard-of-care treatments: ▪ **ARM A:** Xolair every 2 weeks or every 4 weeks ▪ **ARM B:** Placebo	Placebo-controlled study of Xolair in adult patients with chronic rhinosinusitis with nasal polyps (CRSwNP) who have had an inadequate response to standard-of-care treatments: ▪ **ARM A:** Xolair every 2 weeks or every 4 weeks ▪ **ARM B:** Placebo
Primary endpoint	▪ Change from baseline in average daily nasal congestion score (NCS) at week 24 ▪ Change from baseline in nasal polyp score (NPS) to week 24	▪ Change from baseline in average daily nasal congestion score (NCS) at week 24 ▪ Change from baseline in nasal polyp score (NPS) to week 24
Status	▪ FPI Q4 2017	▪ FPI Q4 2017
CT Identifier	NCT03280550	NCT03280537

In collaboration with Novartis

Lucentis

Anti-VEGF antibody fragment for ocular diseases

Indication	AMD port delivery device (Ranibizumab Port Delivery System)
Phase/study	**Phase II LADDER**
# of patients	N=220
Design	▪ Four-arm study: Lucentis monthly intravitreal control vs three ranibizumab formulations delivered via implant
Primary endpoint	▪ Time to first refill
Status	▪ FPI Q3 2015 ▪ Recruitment completed Q3 2017
CT Identifier	NCT02510794

In collaboration with Forsight and Novartis
AMD=age-related macular degeneration

Pipeline summary

Marketed products additional indications

Global Development late-stage trials

pRED (Roche Pharma Research & Early Development)

gRED (Genentech Research & Early Development)

Roche Group 2017 results

Diagnostics

Foreign exchange rate information

Idasanutlin (RG7388)

Small molecule MDM2 antagonist

Indication	Relapsed/refractory AML	Polycythemia vera
Phase/study	**Phase III MIRROS**	**Phase II**
# of patients	N=440	N=20
Design	▪ **ARM A:** Idasanutlin plus cytarabine ▪ **ARM B:** Placebo plus cytarabine	Single-arm study of idasanutlin monotherapy in participants with hydroxyurea (HU)-resistant/intolerant Polycythemia vera (PV)
Primary endpoint	▪ Overall survival	▪ Composite response at week 32 for participants with splenomegaly at baseline ▪ Hematocrit (Hct) control without phlebotomy at week 32 for participants without splenomegaly at baseline
Status	▪ FPI Q4 2015	▪ FPI expected Q1 2018
CT Identifier	NCT02545283	NCT03287245

Ipatasertib (RG7440, GDC-0068)

Highly selective small molecule inhibitor of Akt

Indication	1L castration-resistant prostate cancer	2L castration-resistant prostate cancer	1L metastatic gastric or gastroesophageal junction adenocarcinoma
Phase/study	**Phase III** **IPATential150**	**Phase II** **A.MARTIN**	**Phase II** **JAGUAR**
# of patients	N=850	N=262	N=153
Design	▪ **ARM A:** Ipatasertib plus abiraterone ▪ **ARM B:** Placebo plus abiraterone	▪ **ARM A:** Ipatasertib 400 mg plus abiraterone ▪ **ARM B:** Ipatasertib 200 mg plus abiraterone ▪ **ARM C:** Placebo plus abiraterone	▪ **ARM A:** Ipatasertib plus mFOLFOX6 ▪ **ARM B:** Placebo plus mFOLFOX6
Primary endpoint	▪ Progression-free survival	▪ Progression-free survival	▪ Progression-free survival
Status	▪ FPI Q2 2017	▪ Recruitment completed Q4 2014 ▪ Data in-house ▪ ITT data presented at ASCO 2016 ▪ Biomarker data at ESMO 2016	▪ Recruitment completed Q4 2014 ▪ Data showed no benefit in treated vs control group Q2 2016
CT Identifier	NCT03072238	NCT01485861	NCT01896531

In collaboration with Array BioPharma

ASCO=American Society of Clinical Oncology; ESMO=European Society for Medical Oncology; mFOLFOX6=modified FOLFOX (folinic acid, fluorouracil, oxaliplatin); ITT=intention to treat

Ipatasertib (RG7440, GDC-0068)

Highly selective small molecule inhibitor of Akt

Indication	1L TNBC and HR+ breast cancer	1L TNBC	Neoadjuvant TNBC
Phase/study	**Phase III** **IPATunity130**	**Phase II** **LOTUS**	**Phase II** **FAIRLANE**
# of patients	N=450	N=120	N=150
Design	Cohort 1: Dx+ 1L TNBC (N=249) ▪ **Arm A:** Ipatasertib plus paclitaxel ▪ **Arm B:** Placebo plus paclitaxel Cohort 2: Dx+ HR+ mBC (N=201) ▪ **Arm A:** Ipatasertib plus paclitaxel ▪ **Arm B:** Placebo plus paclitaxel	▪ **ARM A:** Ipatasertib plus paclitaxel ▪ **ARM B:** Placebo plus paclitaxel	▪ **ARM A:** Ipatasertib plus paclitaxel ▪ **ARM B:** Placebo plus paclitaxel
Primary endpoint	▪ Progression-free survival	▪ Progression-free survival	▪ Pathologic complete response (pCR)
Status	▪ FPI Jan 2017	▪ Recruitment completed Q1 2016 ▪ Data presented at ASCO 2017 ▪ Data published in *Lancet Oncology* 2017 Aug 8. pii: S1470-2045(17)30450-3	▪ FPI Q1 2015 ▪ Recruitment completed Q2 2017
CT Identifier	NCT03337724	NCT02162719	NCT02301988

In collaboration with Array BioPharma

ASCO=American Society of Clinical Oncology; TNBC=triple-negative breast cancer

Polatuzumab vedotin (RG7596)

ADC targeting CD79b to treat B cell malignancies

Indication	Non-Hodgkin's lymphoma	Relapsed or refractory FL and DLBCL	1L DLBCL
Phase/study	**Phase II ROMULUS**	**Phase Ib/II**	**Phase III POLARIX**
# of patients	N=246	N=224	N=875
Design	▪ **Arm A:** Pinatuzumab vedotin plus Rituxan ▪ **Arm B:** Polatuzumab vedotin plus Rituxan ▪ **Arm C:** Polatuzumab vedotin plus Rituxan ▪ **Arms E, G, H:** Polatuzumab vedotin plus Gazyva	▪ **PIb:** Dose escalation ▪ **PhII:** Polatuzumab vedotin plus BR vs. BR ▪ **PhII expansion:** Polatuzumab vedotin plus Gazyva, non-randomized	▪ **ARM A:** Polatuzumab vedotin plus R-CHP ▪ **ARM B:** R-CHOP
Primary endpoint	▪ Safety and anti-tumor activity	▪ Safety and response by PET/CT	▪ Progression-free survival
Status	▪ FPI in Gazyva arms Q1 2015 ▪ Recruitment completed Q3 2016 ▪ Updated data presented at ASCO, ICML and EHA 2015 ▪ Updated data presented at ASH 2016	▪ FPI Q4 2014 ▪ Recruitment completed Q3 2016 ▪ Updated data presented at ASH 2016, ICML and EHA 2017 ▪ PRIME designation (Q2 2017) and Breakthrough Therapy Designation granted (Q3 2017) for r/r DLBCL ▪ Pivotal randomized Ph2 in r/r DLBCL presented at ASH 2017	▪ FPI Q4 2017
CT Identifier	NCT01691898	NCT02257567	NCT03274492

In collaboration with Seattle Genetics

ADC=antibody–drug conjugate; DLBCL=diffuse large B cell lymphoma; FL=follicular lymphoma; ASH=American Society of Hematology; ICML=international Conference on Malignant Lymphoma; EHA=European Hematology Association; BR=bendamustine and Rituxan; R-CHP=Rituxan, cyclophosphamide, hydroxydoxorubicin, prednisone; R-CHOP=Rituxan, cyclophosphamide, doxorubicin, vincristine, and prednisone

Polatuzumab vedotin (RG7596)

ADC targeting CD79b to treat B cell malignancies

Indication	Relapsed or refractory FL or DLBCL		
Phase/study	**Phase I/II**	**Phase I/II**	**Phase I/II**
# of patients	N=116	N=116	N=86
Design	▪ **Dose escalation cohort:** Polatuzumab vedotin plus Gazyva plus Venclexta[1] ▪ **Expansion cohort DLBCL:** Polatuzumab vedotin plus Rituxan plus Venclexta[1] ▪ **Expansion cohort FL:** Polatuzumab vedotin plus Gazyva plus Venclexta[1]	▪ **Dose escalation cohort:** Polatuzumab vedotin plus Gazyva plus lenalidomide ▪ **Expansion cohort DLBCL:** Polatuzumab vedotin plus Rituxan plus lenalidomide ▪ **Expansion cohort FL:** Polatuzumab vedotin plus Gazyva plus lenalidomide	▪ **Dose escalation cohort:** Polatuzumab vedotin plus Gazyva plus Tecentriq ▪ **Expansion cohort DLBCL:** Polatuzumab vedotin plus Rituxan plus Tecentriq ▪ **Expansion cohort FL:** Polatuzumab vedotin plus Gazyva plus Tecentriq
Primary endpoint	▪ Percentage of participants with CR	▪ Percentage of participants with CR	▪ Percentage of participants with CR
Status	▪ FPI Q1 2016	▪ FPI Q1 2016	▪ FPI Q4 2016
CT Identifier	NCT02611323	NCT02600897	NCT02729896

In collaboration with Seattle Genetics; [1]Joint project with AbbVie, in collaboration with The Walter and Eliza Hall Institute ADC=antibody–drug conjugate; FL=follicular lymphoma; DLBCL=diffuse large B cell lymphoma; CR=complete response

Taselisib (RG7604, GDC-0032)

Mutant-selective PI3 kinase inhibitor

Indication	HER2-negative ER-positive metastatic breast caner patients who progressed after aromatase inhibitor therapy	Neoadjuvant HER2-negative ER-positive breast cancer
Phase/study	**Phase III** **SANDPIPER**	**Phase II** **LORELEI**
# of patients	N=600	N=330
Design	▪ **ARM A**: Taselisib plus fulvestrant ▪ **ARM B:** Placebo plus fulvestrant	▪ **ARM A**: Taselisib plus letrozole ▪ **ARM B:** Placebo plus letozole
Primary endpoint	▪ Progression-free survival	▪ Response rate and pCR
Status	▪ FPI Q2 2015 ▪ Recruitment completed Q3 2017	▪ Recruitment completed Q3 2016 ▪ Study met co-primary endpoint of ORR ▪ Data presented at ESMO 2017
CT Identifier	NCT02340221	NCT02273973

SABCS=San Antonio Breast Cancer Symposium; ESMO= European Society for Medical Oncology; ER=estrogen receptor; pCR=pathologic complete response

Crenezumab (RG7412)

Humanized mAb targeting all forms of Aβ

Indication	Prodromal to mild Alzheimer's disease	
Phase/study	**Phase III** **CREAD 1**	**Phase III** **CREAD 2**
# of patients	N=750	N=750
Design	▪ **ARM A:** Crenezumab IV 60mg/kg q4w ▪ **ARM B:** Placebo IV q4w	▪ **ARM A:** Crenezumab IV 60mg/kg q4w ▪ **ARM B:** Placebo IV q4w
Primary endpoint	▪ CDR-SB at 105 weeks	▪ CDR-SB at 105 weeks
Status	▪ FPI Q1 2016 ▪ Enrollment completed Q4 2017	▪ FPI Q1 2017
CT Identifier	NCT02670083	NCT03114657

In collaboration with AC Immune

Aβ=amyloid-beta; CDR-SB=Clinical Dementia Rating, Sum of Boxes

Crenezumab (RG7412)

Humanized mAb targeting all forms of Aβ

Indication	Alzheimer's disease	
Phase/study	**Phase II** **ABBY** Cognition study	**Phase II** **BLAZE** Biomarker study
# of patients	N=446	N=91
Design	▪ **ARM A**: Crenezumab SC ▪ **ARM B**: Crenezumab IV ▪ **ARM C:** Placebo	▪ **ARM A**: Crenezumab SC ▪ **ARM B**: Crenezumab IV ▪ **ARM C:** Placebo
Primary endpoint	▪ Change in cognition (ADAS-cog) and Clinical Dementia Rating, Sum of Boxes (CDR-SB) score from baseline to week 73	▪ Change in brain amyloid load from baseline to week 69
Status	▪ Recruitment completed Q3 2012 ▪ Positive trend in cognition was observed in higher dose for people with milder disease consistently across both studies (ABBY/BLAZE) and across endpoint ▪ Data presented at AAIC 2014	▪ Recruitment completed Q3 2012 ▪ Cognition data presented at AAIC 2014 ▪ Exploratory amyloid PET analysis suggests reduced amyloid accumulation in ARM B ▪ Biomarker data presented at CTAD 2014
CT Identifier	NCT01343966	NCT01397578

In collaboration with AC Immune

Aβ=amyloid-beta; ADAS-cog=Alzheimer's Disease Assessment Scale cognitive subscale; CDR-SB=Clinical Dementia Rating, Sum of Boxes; AAIC=Alzheimer's Association International Conference; CTAD=Clinical Trials on Alzheimer's Disease

Crenezumab (RG7412)

Humanized mAb targeting all forms of Aβ

Indication	Mild to moderate Alzheimer's disease	Alzheimer's Prevention Initiative (API) Colombia
Phase/study	**Phase I**	**Phase II** Cognition study
# of patients	N=72	N=252
Design	▪ **ARM A/B**: Crenezumab dose level I & placebo ▪ **ARM C/D**: Crenezumab dose level II & placebo ▪ **ARM E/F**: Crenezumab dose level III & placebo	▪ **ARM A**: 100 carriers receive crenezumab SC ▪ **ARM B**: 100 carriers receive placebo ▪ **ARM C:** 100 non-carriers receive placebo
Primary endpoint	▪ Safety (incidence and nature of MRI safety findings) and PK	▪ Change on Alzheimer's Prevention Initiative (API) Composite Cognitive Test total score
Status	▪ FPI Q1 2015 ▪ Recruitment completed Q3 2016 ▪ Interim data presented at CTAD 2016 ▪ Data presented at AD/PD and AAN 2017	▪ FPI Q4 2013 ▪ Recruitment completed Q1 2017
CT Identifier	NCT02353598	NCT01998841

In collaboration with AC Immune

Aβ=amyloid-beta; CTAD= Clinical Trials on Alzheimer's Disease; AD/PD=Alzheimer's & Parkinson's Diseases Congress

Gantenerumab (RG1450)

Fully human mAb binding aggregated forms of Aβ

Indication	Prodromal Alzheimer's disease	Mild Alzheimer's disease
Phase/study	**Phase II/III** **SCarlet RoAD**	**Phase III** **Marguerite RoAD**
# of patients	N=799	N=1,000
Design	104-week subcutaneous treatment period ▪ **ARM A:** Gantenerumab (225 mg) ▪ **ARM B:** Gantenerumab (105 mg) ▪ **ARM C:** Placebo	104-week subcutaneous treatment period ▪ **ARM A:** Gantenerumab ▪ **ARM B:** Placebo
Primary endpoint	▪ Change in CDR-SB at 2 years ▪ Sub-study: change in brain amyloid by PET at 2 years	▪ Change in ADAS-Cog and CDR-SB at 2 years (co-primary)
Status	▪ Phase I PET data: *Archives of Neurology*, 2012 Feb;69(2):198-207 ▪ Recruitment completed Q4 2013 ▪ Dosing stopped due to futility Q4 2014 ▪ Data presented at AAIC 2015 ▪ FPI in open label extension study Q4 2015 ▪ OLE data presented at CTAD 2017	▪ FPI Q1 2014 ▪ Recruitment stopped Q4 2015 ▪ FPI Q1 2016 for open label extension ▪ OLE data (MRI) presented at CTAD 2017
CT Identifier	NCT01224106	NCT02051608

In collaboration with MorphoSys AG

Aβ=amyloid-beta; CDR-SB=Clinical Dementia Rating, Sum of Boxes; ADAS-cog=Alzheimer's Disease Assessment Scale cognitive subscale; AAIC=Alzheimer's Association International Conference; CTAD=Clinical Trials on Alzheimer's Disease; MRI=magnetic resonance imaging

Olesoxime (RG6083)

Mitochondrial-targeted neuroprotective small molecule

Indication	Spinal muscular atrophy Type 2 and 3	
Phase/study	**Phase II** Registrational study	**Phase II** **OLEOS**
# of patients	N=165	N=165
Design	▪ **ARM A:** Olesoxime ▪ **ARM B:** Placebo	▪ Open-label, single arm study to evaluate long-term safety, tolerability, and effectiveness of 10 mg/kg olesoxime in patients with SMA
Primary endpoint	▪ Motor function measure	▪ Safety
Status	▪ Study completed Q4 2013 ▪ Presented at AAN 2014 ▪ Published in *Lancet Neurology* 2017 Jul; 16(7):513-522	▪ FPI Q4 2015 ▪ Recruitment completed Q1 2017
Collaborator	Trophos acquisition	
CT Identifier	NCT01302600	NCT02628743

AAN=Annual Meeting of the American Academy of Neurology

RG6206

Myostatin-inhibiting adnectin fusion protein

Indication	Duchenne Muscular Dystrophy	
Phase/study	**Phase I/II**	**Phase II/III**
# of patients	N=40	N=159
Design	▪ Randomized, double-blind, placebo-controlled, multiple ascending dose study in ambulatory boys with duchenne muscular dystrophy	Randomized, double blind, placebo-controlled study in ambulatory boys age 6-11 years with duchenne muscular dystrophy ▪ **ARM A:** RG6206 low dose ▪ **ARM B:** RG6206 high dose ▪ **ARM C:** Placebo
Primary endpoint	▪ Safety	▪ Change from baseline in the 4 stair climb velocity after 48 weeks
Status	▪ FPI Q4 2015 ▪ 24 week data presented at BPNA 2018	▪ FPI Q3 2017
CT Identifier	NCT02515669	NCT03039686

In collaboration with Bristol-Myers Squibb
BPNA=British Paediatric Neurology Asscoiation

Etrolizumab (RG7413)

Humanized mAb against beta 7 integrin

Indication	Ulcerative colitis patients who are TNF-naïve		
Phase/study	**Phase III** **HIBISCUS I** Induction study	**Phase III** **HIBISCUS II** Induction study	**Phase III** **GARDENIA** Sustained remission study
# of patients	N=350	N=350	N=720
Design	▪ **ARM A**: Etrolizumab 105mg SC q4w plus adalimumab placebo SC ▪ **ARM B**: Etrolizumab placebo SC plus adalimumab SC ▪ **ARM C**: Etrolizumab placebo SC plus adalimumab placebo SC	▪ **ARM A**: Etrolizumab 105mg SC q4w plus adalimumab placebo SC ▪ **ARM B**: Etrolizumab placebo SC plus adalimumab SC ▪ **ARM C**: Etrolizumab placebo SC plus adalimumab placebo SC	Time on treatment 54 weeks ▪ **ARM A**: Etrolizumab 105mg SC q4w plus placebo IV ▪ **ARM B**: Placebo SC q4w plus inflixumab IV
Primary endpoint	▪ Induction of remission compared with placebo as determined by the Mayo Clinic Score (MCS) at week 10	▪ Induction of remission compared with placebo as determined by the Mayo Clinic Score (MCS) at week 10	▪ Proportion of patients in sustained clinical remission as determined by Mayo Clinic Score (MCS) at weeks 10, 30 and 54
Status	▪ FPI Q4 2014	▪ FPI Q4 2014	▪ FPI Q4 2014
CT Identifier	NCT02163759	NCT02171429	NCT02136069

Etrolizumab (RG7413)

Humanized mAb against beta 7 integrin

Indication	Ulcerative colitis patients who are TNF-naïve and refractory or intolerant to immunosuppressant and/or corticosteroid treatment	Ulcerative colitis patients who are refractory or intolerant of TNF inhibitors	Moderate to severe ulcerative colitis patients
Phase/study	**Phase III** **LAUREL** Maintenance study	**Phase III** **HICKORY** Induction and maintenance study	**Phase III** **COTTONWOOD** Open label extension study
# of patients	N=350	N=800	N=2,625
Design	Induction phase: ▪ **ARM A:** Open label etrolizumab 105mg SC q4w Maintenance study: ▪ **ARM B:** Etrolizumab 105mg SC q4w ▪ **ARM C:** Placebo	Cohort 1 (open-label): ▪ **ARM A:** Etrolizumab induction + placebo maintenance ▪ **ARM B:** Etrolizumab induction + maintenance Cohort 2 (blinded): ▪ **ARM A:** Etrolizumab induction + maintenance ▪ **ARM B:** Placebo induction + maintenance	▪ Patients who were previously enrolled in etrolizumab phase II and phase III studies and meet recruitment criteria will receive etrolizumab 105 SC q4w
Primary endpoint	▪ Maintenance of remission (at week 62) among randomized patients in remission at Week 10 as determined by the Mayo Clinic Score (MCS)	▪ Clinical Remission (Mayo Clinic Score, MCS) at Week 14 ▪ Remission maintenance (by MCS, at Week 66) among patients with remission at Week 14	▪ Long-term efficacy as determined by partial Mayo Clinic Score (pMCS), incidence of adverse events
Status	▪ FPI Q3 2014	▪ FPI Q2 2014 ▪ First data presented at ECCO 2017 ▪ Open label induction and endoscopy data to be presented at UEGW 2017	▪ FPI Q3 2014
CT Identifier	NCT02165215	NCT02100696	NCT02118584

ECCO=European Crohn's and Colitis Organisation

Etrolizumab (RG7413)

Humanized mAb against beta 7 integrin

Indication	Moderately to severely active Crohn's disease	Moderately to severely active Crohn's disease
Phase/study	**Phase III** **BERGAMOT**	**Phase III** **JUNIPER** Open label extension study for BERGAMOT
# of patients	N=1,250	N=900
Design	▪ **ARM A**: Etrolizumab SC 210 mg (induction only) ▪ **ARM B**: Etrolizumab SC 105 mg and maintenance ▪ **ARM C**: Placebo	▪ Etrolizumab SC 105mg q4w
Primary endpoint	▪ Induction and maintenance of clinical remission	▪ Safety
Status	▪ FPI Q1 2015 ▪ Cohort 1 data to be presented at UEGW 2017	▪ FPI Q2 2015
CT Identifier	NCT02394028	NCT02403323

UEGW=United European Gastroenterology Week

Lebrikizumab (RG3637)

Humanized mAb binding specifically to IL-13

Indication	Idiopathic pulmonary fibrosis
Phase/study	**Phase II** **RIFF**
# of patients	N=507
Design	▪ **ARM A:** Lebrikizumab SC q4w ▪ **ARM B:** Placebo ▪ **ARM C:** Lebrikizumab SC q4w + Esbriet ▪ **ARM D:** Esbriet
Primary endpoint	▪ Change in FVC at week 52
Status	▪ FPI Q4 2013 (arms A&B) ▪ Data in-house for Arms A&B ▪ FPI in arms C and D in Q3 2015 ▪ Recruitment completed in arms C and D in Q3 2016 ▪ PFS not met for arm C versus D, but lebrikizumab in combination with Esbriet showed a numerical mortality benefit versus Esbriet alone
CT Identifier	NCT01872689

Lebrikizumab was out licensed to Dermira Aug 2017 (Roche remains rights for ILD, including IPF)
IPF=idiopathic pulmonary fibrosis; ILD=interstitial lung disease

Pipeline summary

Marketed products additional indications

Global Development late-stage trials

pRED (Roche Pharma Research & Early Development)

gRED (Genentech Research & Early Development)

Roche Group 2017 results

Diagnostics

Foreign exchange rate information

Oncology development programs
Small molecules

Molecule	BET inhibitor (RG6146, TEN-010)		
Indication	**Relapsed/refractory MM**	**Relapsed/refractory DLBCL**	**Advanced ovarian cancer and triple negative breast cancer**
Phase/study	**Phase Ib**	**Phase Ib**	**Phase Ib**
# of patients	N=86	N=94	N=30
Design	Dose escalation and cohort expansion study: ▪ **Part 1:** RG6146 monotherapy ▪ **Part 2:** RG6146 in combination with daratumumab	▪ Dose escalation and cohort expansion study of the doublet or triplet combination with RG6146 plus Venclexta[1] ± Rituxan	▪ Dose escalation and expansion study of RG6146 plus Tecentriq
Primary endpoint	▪ Safety and efficacy	▪ Safety and efficacy	▪ Safety and efficacy
Status	▪ FPI Part 1 Q2 2017	▪ FPI Q3 2017	▪ FPI Q4 2017
CT Identifier	NCT03068351	NCT03255096	NCT03292172
Collaborator	Tensha acquisition		

[1] Joint project with AbbVie, in collaboration with The Walter and Eliza Hall Institute
MM=multiple myeloma; DLBCL=diffuse large B cell lymphoma

Oncology development programs
Monoclonal antibodies

Molecule	Codrituzumab (Glypican-3 MAb GC33, RG7686)		
Indication	**Metastatic liver cancer (hepatocellular carcinoma)**	**2L metastatic liver cancer (hepatocellular carcinoma)**	**Metastatic liver cancer (hepatocellular carcinoma)**
Phase/study	Phase Ib	Phase II	Phase Ib
# of patients	N=40-50	N=185	N=20
Design	▪ Study US Monotherapy ▪ Study Japan Monotherapy ▪ Dose escalation study in combo with SOC	▪ Adaptive design study Double blind randomized 2:1, RG7686:placebo ▪ Patients are stratified according to the level of GPC-3 expression in tumor	▪ Dose escalation and expansion study in combination with Tecentriq
Primary endpoint	▪ Safety and tolerability	▪ Progression-free survival	▪ Safety and tolerability
Status	▪ Recruitment completed Q4 2013 ▪ Data presented at ASCO 2014 ▪ Further steps under evaluation	▪ Recruitment completed Q1 2013 ▪ Data presented at ASCO 2014 ▪ Further steps under evaluation	▪ Recruitment completed Q3 2017 (Japan and Taiwan)
	Monotherapy development on hold		
CT Identifier	NCT00746317, NCT00976170	NCT01507168	JapicCTI-163325
Collaborator	Chugai		

ASCO=American Society of Clinical Oncology

Oncology development programs
Monoclonal antibodies

Molecule	**Emactuzumab** (CSF-1R MAb, RG7155)	
Indication	**Solid tumors**	
Phase/study	**Phase I**	**Phase I**
# of patients	N=310	N=146
Design	Emactuzumab in combination with Tecentriq ▪ **Part 1:** Dose escalation ▪ **Part 2:** Expansion	Emactuzumab in combination with selicrelumab (CD40 MAb) ▪ **Part 1:** Dose escalation ▪ **Part 2:** Expansion
Primary endpoint	▪ Safety	▪ Safety, PK and PD
Status	▪ FPI Q1 2015	▪ FPI Q2 2016
CT Identifier	NCT02323191	NCT02760797

Oncology development programs
Monoclonal antibodies

Molecule	FAP-IL2v FP (RG7461)	
Indication	**Solid tumors**	**1L Renal call carcinoma**
Phase/study	**Phase I**	**Phase Ib**
# of patients	N=60	N=110
Design	▪ **Part A:** Dose escalation study (monotherapy) ▪ **Part B:** Dose escalation and extension in combination with trastuzumab (HER2+ breast cancer) ▪ **Part C:** Dose escalation and extension in combination with cetuximab (head & neck cancer)	**Part I:** Dose escalation ▪ Arm A: FAP-IL2v plus Tecentriq; ▪ Arm B: FAP-IL2v plus Tecentriq plus Avastin **Part II:** Dose expansion ▪ Arm A: FAP-IL2v plus Tecentriq; ▪ Arm B: FAP-IL2v plus Tecentriq plus Avastin
Primary endpoint	▪ Safety, PK/PD and efficacy (Part B/C only)	▪ Safety, PD and efficacy
Status	▪ FPI Q4 2015 ▪ FPI Part B/C Q4 2017	▪ FPI Q1 2017
CT Identifier	NCT02627274	NCT03063762

Oncology development programs
Monoclonal antibodies

Molecule	**Vanucizumab** (ANG2-VEGF biMAb, RG7221)	**Cergutuzumab amunaleukin** (CEA-IL2v, RG7813)
Indication	**Solid tumors**	**Solid tumors**
Phase/study	**Phase I**	**Phase Ib**
# of patients	N≈132	N=75
Design	▪ Multiple ascending dose study with extension cohorts in solid tumors to assess the PD effects and platinum-resistant ovarian cancer ▪ Dose escalation of vanucizumab plus Tecentriq	▪ **Part 1:** Dose escalation of RG7813 in combination with Tecentriq ▪ **Part 2:** Dose expansion of RG7813 in combination with Tecentriq
Primary endpoint	▪ Safety and PK	▪ Safety, efficacy, PK and PD
Status	▪ FPI Q4 2012 ▪ Data presented at ASCO 2014 (Dose escalation), ASCO 2015 (ovarian cancer cohort), ECC 2015 (biomarker/imaging) ▪ FPI in combination arm Q2 2016	▪ FPI in Q2 2015
CT Identifier	NCT01688206	NCT02350673

ASCO=American Society of Clinical Oncology; ECC=European Cancer Congress; ESMO=European Society for Medical Oncology

Oncology development programs
Monoclonal antibodies

Molecule	**CEA TCB** (RG7802)	
Indication	**CEA-positive solid tumors**	
Phase/study	**Phase Ia**	**Phase Ib**
# of patients	N≈286 (DE & DF)	N=410
Design	▪ **Part I:** Dose escalation of RG7802 ▪ **Part II:** Dosing strategy ▪ **Part III**: Assessment of schedule ▪ **Part IV:** Dose and schedule expansion	▪ **Part I:** RG7802 dose escalation plus Tecentriq ▪ **Part II**: Expansion at defined dose and schedule
Primary endpoint	▪ Safety, Efficacy, PK and PD	▪ Safety, Efficacy, PK and PD
Status	▪ FPI Q4 2014 ▪ Data presented at ASCO 2017	▪ FPI Q1 2016 ▪ Data presented at ASCO 2017
CT Identifier	NCT02324257	NCT02650713

TCB=T-cell bispecific; ASCO=American Society of Clinical Oncology

Oncology development programs
Monoclonal antibodies

Molecule	CD20 TCB (RG6026)	FAP-DR5 biMAb (RG7386)
Indication	**Relapsed or refractory B cell non-Hodgkin's lymphoma**	**Solid tumors**
Phase/study	**Phase I**	**Phase I**
# of patients	N≈30 (+40+20)	N=120
Design	First-in-man single-agent dose escalation study ▪ Initial dose escalation (N≈30) ▪ Expansion cohort in r/r DLBCL (N=40) ▪ Expansion cohort in r/r FL (N=20) All patients will receive pretreatment with a single dose of Gazyva (1000mg)	▪ **Part I:** Dose escalation ▪ **Part II:** Tumor biopsy and imaging evaluation for assessment of treatment-induced pharmacodynamic (PD) effects ▪ **Part III:** Evaluation of antitumor activity of single-agent RG7386 in patients with histologically confirmed recurrent or metastatic, non-resectable FAP+ sarcomas with two or fewer prior regimens for advanced disease
Primary endpoint	▪ Safety	▪ Parts I and II – safety and tolerability ▪ Part III – antitumor activity
Status	▪ FPI Q1 2017	▪ FPI Q3 2015
CT Identifier	NCT03075696	NCT02558140

TCB=T-cell bispecific; biMAb=bispecific monoclonal antibody

Oncology development programs
Monoclonal antibodies

Molecule	Selicrelumab (CD40 MAb, RG7876)	
Indication	**Solid tumors**	**Solid tumors**
Phase/study	**Phase Ib**	**Phase Ib**
# of patients	N=160	N=170
Design	▪ **Part I:** Selicrelumab single dose escalation in combination with Tecentriq ▪ **Part II:** Selicrelumab plus Tecentriq combination extension in CRC, HNSCC and cpi-experienced NSCLC	▪ Selicrelumab dose escalation in combination with vanucizumab (ANG2-VEGF biMAb)
Primary endpoint	▪ Safety, PD and efficacy	▪ Safety, PD and efficacy
Status	▪ FPI Part 1 Q4 2014 ▪ FPI Part 2 Q4 2017	▪ FPI Q1 2016
CT Identifier	NCT02304393	NCT02665416

CRC=colorectal cancer; HNSCC=head and neck squamous cell carcinoma; NSCLC=non-small cell lung cancer; CPI=checkpoint inhibitor; biMAb=bispecific monoclonal antibody

Neuroscience development programs

Molecule	**Basmisanil** (GABRA5 NAM, RG1662)	**NME** (RG7906)
Indication	**Cognitive impairment associated with schizophrenia**	**Psychiatric disorders**
Phase/study	**Phase II**	**Phase I**
# of patients	N=180	N=164
Design	For 24 weeks patients will receive: ▪ **ARM A**: RG1662 80mg twice daily ▪ **ARM B**: RG1662 240mg twice daily ▪ **ARM C**: Placebo	▪ **Part 1:** Adaptive single ascending dose in healthy volunteers. Single-center, randomized, placebo-controlled, parallel study ▪ **Part 2:** Adaptive multiple ascending dose in healthy volunteers. Single-center, randomized, double-blind, placebo-controlled, parallel study
Primary endpoint	▪ Efficacy (cognitive function), PK, safety and tolerability	▪ Safety, tolerability, PK and PD
Status	▪ FPI Q4 2016	▪ FPI Q1 2016 ▪ Part 1 completed, Part 2 completed
CT Identifier	NCT02953639	NCT02699372

Neuroscience development programs

Spinal muscular atrophy

Molecule	**SMN2 splicing modifier (2)** (RG7916)	
Indication	**Spinal muscular atrophy**	
Phase/study	**Phase I**	**Phase II** **SUNFISH**
# of patients	N=33	N=186
Design	▪ Randomized, double-blind, adaptive single ascending dose (SAD), placebo-controlled study in healthy volunteers	Randomized, double-blind, placebo- controlled study in adult and pediatric patients with type 2 or type 3 spinal muscular atrophy ▪ **Part 1** (dose-finding): At least 12 weeks ▪ **Part 2** (confirmatory): 24 months
Primary endpoint	▪ Safety and tolerability	▪ Safety, tolerability, PK, PD and efficacy
Status	▪ FPI Q1 2016 ▪ Study completed Q3 2016 ▪ Data presented at Child Neurology Society conference 2016	▪ FPI Q4 2016 ▪ FPI Part 2 Q4 2017 ▪ Data of Part 1 presented at CureSMA and WMS 2017
	Orphan drug designation granted by FDA Q1 2017	
CT Identifier	NCT02633709	NCT02908685
Collaborator	PTC Therapeutics, SMA Foundation	

Neuroscience development programs

Spinal muscular atrophy

Molecule	**SMN2 splicing modifier (2)** (RG7916)	
Indication	**Spinal muscular atrophy**	
Phase/study	**Phase II** **FIREFISH**	**Phase II** **JEWELFISH**
# of patients	N=48	N=24
Design	Open-label study in infants with type 1 spinal muscular atrophy ▪ **Part 1** (dose-finding): At least 4 weeks ▪ **Part 2** (confirmatory): 24 months	▪ Open-label single arm study in adolescents and adults (12–60 yrs) with spinal muscular atrophy type 2/3 previously treated with SMN2 targeting therapy.
Primary endpoint	▪ Safety, tolerability, PK, PD and efficacy	▪ Safety, tolerability and PK
Status	▪ FPI Q4 2016	▪ FPI Q1 2017
	Orphan drug designation granted by FDA Q1 2017	
CT Identifier	NCT02913482	NCT03032172
Collaborator	PTC Therapeutics, SMA Foundation	

Neuroscience development programs

Autism

Molecule	balovaptan (V1a receptor antagonist, RG7314)		GABA-Aa5 PAM (RG7816)
Indication	Autism		Autism
Phase/study	Phase II VANILLA	Phase II aV1ation	Phase I
# of patients	N=223	N=300	N=105
Design	▪ Multicenter, randomized, double-blind, placebo-controlled proof-of-concept study in individuals with autism spectrum disorder	▪ Multicenter, randomized, double-blind, placebo-controlled proof-of-concept study in pediatrics (5–17 yrs) with autism spectrum disorder	▪ Randomized, double-blind, adaptive single-ascending-dose SAD/MAD/FE study in healthy volunteers
Primary endpoint	▪ Safety and efficacy	▪ Safety and efficacy	▪ Safety and tolerability
Status	▪ FPI Q3 2013 ▪ Data presented at IMFAR 2017 ▪ Breakthrough Therapy Designation granted by FDA Jan 2018	▪ FPI Q4 2016	▪ FPI Q4 2017
CT Identifier	NCT01793441	NCT02901431	

IMFAR=International Meeting for Autism Research

Neuroscience development programs

Parkinson's disease

Molecule	**Anti-αSynuclein** (RG7935, PRX002)
Indication	**Parkinson's disease**
Phase/study	**Phase II** **PASADENA**
# of patients	N=300
Design	▪ Randomized, double-blind, placebo-controlled study to evaluate the efficacy of RO7046015 (RG7935, PRX002) in participants with early Parkinson's disease
Primary endpoint	▪ Change from baseline in Movement Disorder Society-Unified Parkinson's Disease Rating Scale (MDS-UPDRS) total score (sum of Parts I, II, and III) at week 52
Status	▪ FPI Q2 2017
CT Identifier	NCT03100149
Collaborator	Prothena

Neuroscience development programs

Huntington's disease

Molecule	HTT ASO (RG6042)	
Indication	**Huntington's disease**	
Phase/study	**Phase I/IIa**	**Phase II OLE**
# of patients	N=46	N=46
Design	▪ Multiple ascending doses of HTT-ASO administered intrathecally to adult patients with early manifest Huntington's disease	▪ Patients from Phase I are enrolled into OLE
Primary endpoint	▪ Safety, tolerability, PK and PD	▪ Longer term safety, tolerability, PK and PD
Status	▪ FPI Q3 2015	▪ FPI Jan 2018
CT Identifier	NCT02519036	NCT03342053
Collaborator	Ionis	

OLE=open label extension

Infectious diseases development programs

Molecule	**nacubactam** (DBO beta lactamase inhibitor, RG6080, OP0595)
Indication	**Complicated urinary tract infection**
Phase/study	**Phase I**
# of patients	N=20
Design	▪ Open label, one treatment, one group study, to investigate the PK of nacubactam and meropenem in patients with cUTI
Primary endpoint	▪ PK
Status	▪ FPI Q3 2017
CT Identifier	NCT03174795
Collaborator	Meiji and Fedora

cUTI=complicated urinary tract infection

Infectious diseases development programs

Chronic hepatitis B

Molecule	TLR7 agonist (3) (RG7854)	HBV LNA (RG6004)	Capsid inhibitor CAPi (2) (RG7907)
Indication	Chronic hepatitis B	Chronic hepatitis B	Chronic hepatitis B
Phase/study	Phase I	Phase I	Phase I
# of patients	N=110	N=110	N=128
Design	▪ Healthy volunteer and chronic hepatitis B patient study	▪ Healthy volunteer and chronic hepatitis B patient study	▪ Healthy volunteer and chronic hepatitis B patient study
Primary endpoint	▪ Safety, PK and PD	▪ Safety, PK and PD	▪ Safety, PK and PD
Status	▪ FPI Q4 2016	▪ FPI Q1 2017	▪ FPI Q4 2016
CT Identifier	NCT02956850	NCT03038113	NCT02952924

TLR7=toll-like receptor 7; LNA=locked nucleic acid

Ophthalmology development programs

Molecule	VEGF-Ang2 biMAb (VA2) (RG7716)		
Indication	**Neovascular age related macular degeneration (nAMD)**		**Center-involving diabetic macular edema (CI-DME)**
Phase/study	**Phase II AVENUE**	**Phase II STAIRWAY**	**Phase II BOULEVARD**
# of patients	N=271	N=75	N=210
Design	▪ **ARM A:** SoC (Lucentis), q4w ▪ **ARM B:** 1.5 mg VA2, q4w ▪ **ARM C:** 6mg VA2, q4w ▪ **ARM D:** 6mg VA2, q4w / q8w ▪ **ARM E:** SoC q4w x 3 doses, switch group to 6 mg VA2 q4w	▪ **ARM A:** SoC (Lucentis), q4w ▪ **ARM B:** 6mg VA2, q>8w (short interval duration) ▪ **ARM C:** 6mg VA2, q>8w (long interval duration)	▪ **ARM A:** SoC (Lucentis), 0.3 mg q4w ▪ **ARM B:** 1.5mg VA2, q4w ▪ **ARM C:** 6mg VA2, q4w
Primary endpoint	▪ Change from baseline BCVA after 32 weeks	▪ Change from baseline BCVA at Week 40	▪ Mean change from baseline BCVA at week 24
Status	▪ FPI Q3 2015 ▪ Recruitment completed Q1 2017	▪ FPI Q1 2017 ▪ Recruitment completed Q1 2017	▪ FPI Q2 2016 ▪ Recruitment completed Q1 2017 ▪ Data to be presented at Angiogenesis 2018
CT Identifier	NCT02484690	NCT03038880	NCT02699450

BCVA=best corrected visual acuity; SoC=standard of care

Ophthalmology development programs

Molecule	**NME** (RG7945)
Indication	**Primary open angle glaucoma (POAG) or ocular hypertension (OHT)**
Phase/study	**Phase I**
# of patients	N=52
Design	▪ **Part A:** Placebo-controlled parallel multiple-ascending dose study ▪ **Part B:** Extension including up to two selected doses from Part A and latanoprost 0.005% as active comparator
Primary endpoint	▪ Safety/tolerability and efficacy (change from baseline in mean intraocular pressure (IOP)) after 7 days of RG7945 administration
Status	▪ FPI Q4 2017
CT Identifier	NCT03293992

Immunology development programs

Molecule	Cathepsin S inhibitor (CAT-S inh) (RG7625)	Cadherin 11 MAb (RG6125)
Indication	Primary Sjögren's syndrome	Rheumatoid Arthritis
Phase/study	**Phase II**	**Phase IIa/b**
# of patients	N=75	N≈250
Design	▪ **ARM A**: RG7625 ▪ **ARM B**: Placebo	Phase IIa (PoC) ▪ **ARM A:** RG6125 ▪ **ARM B:** Placebo Phase IIb (DRF) ▪ **ARM A, B, C:** RG6125 ▪ **ARM D:** Placebo
Primary endpoint	▪ Percentage of participants with a clinically relevant decrease in European League Against Rheumatism (EULAR) Sjögren's Syndrome Disease Activity Index (ESSDAI) Score	▪ Primary Endpoint at Week 12: proportion of patients achieving a ACR50 response at week 12 using RG6125 as adjunct therapy
Status	▪ FPI Q3 2016 ▪ Recruitment completed Q1 2017	▪ FPI Q4 2016
CT Identifier	NCT02701985	NCT03001219

PoC=proof of concept; DRF=dose range finding

Immunology development programs

Molecule	C5 inh MAb (RG6107, SKY59)	IgG-IL2 FP (RG7835)
Indication	Paroxysmal nocturnal hemoglobinuria	Autoimmune diseases
Phase/study	**Phase I/II COMPOSER**	**Phase I**
# of patients	N=49	N=40
Design	Healthy volunteers and treatment naïve/pretreated patients with PNH ▪ **Part 1:** Single ascending dose study in healthy subjects ▪ **Part 2:** Intra-patient single ascending dose study in PNH patients ▪ **Part 3**: Multiple-dose study in PNH patients	▪ A randomized, adaptive, investigator/subject blind, single ascending dose, placebo-controlled study of subcutaneously administered RO7049665 (RG7835) in healthy volunteers
Primary endpoint	▪ Safety, PK and PD	▪ Safety, PK and PD
Status	▪ Part 1: FPI Q4 2016 ▪ Part 2/3: FPI Q2 2017 ▪ Nonclinical data published in *Scientific Reports* 2017 Apr; 7(1):1080	▪ FPI Q3 2017
CT Identifier	NCT03157635	NCT03221179
Collaborator	Chugai	

PNH=paroxysmal nocturnal hemoglobinuria

Other development programs

Molecule	**Bitopertin** (RG1678)
Indication	**Beta thalassemia**
Phase/study	**Phase II**
# of patients	N=24
Design	▪ Single arm, multi center, proof-of-mechanism study of multiple oral doses of bitopertin in adults with nontransfusion-dependent β-thalassemia
Primary endpoint	▪ Safety and efficacy (Change in total Hb level from baseline to the end of the 16-week treatment interval)
Status	▪ FPI Q4 2017
CT Identifier	NCT03271541

Pipeline summary

Marketed products additional indications

Global Development late-stage trials

pRED (Roche Pharma Research & Early Development)

gRED (Genentech Research & Early Development)

Roche Group 2017 results

Diagnostics

Foreign exchange rate information

Oncology development programs
Monoclonal antibodies

gRED Genentech Research & Early Development

Molecule	CD20 TDB (RG7828)	Anti-TIGIT MAb (RG6058, MTIG7192A)	NME (RG6160)
Indication	**Hematologic tumors**	**Solid tumors**	**Relapsed/refractory multiple myeloma**
Phase/study	**Phase I**	**Phase I**	**Phase I**
# of patients	N=390	N=300	N=80
Design	▪ Dose escalation study of RG7828 as single agent and in combination with Tecentriq ▪ Expansion cohorts for r/r FL, r/r DLBCL and r/r MCL	▪ **Phase 1a:** Dose escalation and expansion MTIG7192A/RG6058 ▪ **Phase 1b**: Dose escalation and expansion Tecentriq plus MTIG7192A/RG6058	▪ Dose escalation and expansion of single agent
Primary endpoint	▪ Safety/tolerability, dose/schedule, PK, and response rates	▪ Safety/tolerability, PK variability and preliminary efficacy	▪ Safety/tolerability
Status	▪ FPI Q3 2015	▪ FPI Q2 2016	▪ FPI Q3 2017
CT Identifier	NCT02500407	NCT02794571	NCT03275103

TDB=T cell dependent bispecific; FL=follicular lymphoma; DLBCL=diffuse large B cell lymphoma; MCL=mantle cell lymphoma; r/r=relapsed/refractory

Oncology development programs

Antibody–drug conjugates

Molecule	Anti-MUC16 TDC (RG7882)	NME (RG6109)
Indication	**Platinum-resistant ovarian cancer or unresectable pancreatic cancer**	**AML**
Phase/study	**Phase I**	**Phase I**
# of patients	N=95	N=110
Design	▪ Dose escalation and expansion study	Dose escalation and expansion study: ▪ **ARM A:** RG6109 monotherapy in r/r AML ▪ **ARM B:** RG6109 + azacitidine in 1L AML patients not eligible for intensive induction chemotherapy
Primary endpoint	▪ Safety and PK	▪ Safety and PK
Status	▪ FPI Q2 2014 ▪ Data presented at AACR 2017	▪ FPI Q4 2017
CT Identifier	NCT02146313	NCT03298516
Collaborator	Seattle Genetics	

TDC=thiomab drug conjugate; MUC16=Mucin-16; AML=acute myeloid leukemia; AACR=American Association for Cancer Research

Oncology development programs

Small molecules

gRED Genentech Research & Early Development

Molecule	ChK1 inhibitor (RG7741, GDC-0575)	SERD (3) (RG6171, GDC-9545)	PI3K inhibitor (RG6114, GDC-0077)
Indication	**Solid tumors**	**Metastatic ER+ HER2-neg. breast cancer**	**PIK3CA mutant solid tumors and metastatic ER+ HER2- breast cancer**
Phase/study	**Phase I**	**Phase I**	**Phase I**
# of patients	N=112	N=130	N=156
Design	▪ **Stage 1:** Dose escalation ▪ **Stage 2:** Cohort expansion	▪ Dose escalation and expansion at recommended phase II dose (RP2D) ▪ Single agent and in combination with palbociclib and/or luteinizing hormone–releasing hormone (LHRH) agonist	Monotherapy and in combination with SoC (letrozole; letrozole plus palbociclib; fulvestrant) ▪ **Stage 1:** Dose escalation ▪ **Stage 2:** Expansion
Primary endpoint	▪ Safety and PK	▪ Safety	▪ Safety, tolerability and PK
Status	▪ FPI Q2 2012	▪ FPI Q4 2017	▪ FPI Q4 2016 ▪ Preclinical/molecule discovery data presented at AACR 2017
CT Identifier	NCT01564251	NCT03332797	NCT03006172
Collaborator	Array BioPharma		

SERD=selective estrogen receptor degrader
AACR=American Association for Cancer Research; SoC=standard of care

Oncology development programs

Cancer vaccines

Molecule	**Personalized Cancer Vaccine (PCV)** (RG6180)
Indication	**Locally advanced or metastatic solid tumors**
Phase/study	**Phase Ia/Ib**
# of patients	N=572
Design	Open-label, multicenter, global study ▪ **Phase 1a:** Dose escalation of RG6180 as single agent ▪ **Phase 1b:** Dose escalation, exploration and expansion trial of RG6180 in combination with Tecentriq
Primary endpoint	▪ Safety/tolerability, PK and immune response
Status	▪ FPI Q4 2017
CT Identifier	NCT03289962
Collaborator	BioNTech

Neuroscience development programs

gRED Genentech Research & Early Development

Molecule	Nav1.7 (2) (RG6029, GDC-0310)	DLK inhibitor (RG6000, GDC-0134)
Indication	Pain	Amyotrophic lateral sclerosis
Phase/study	Phase I	Phase I
# of patients	N=95	N=72
Design	▪ Randomized, placebo-controlled, double-blind study in healthy volunteers	▪ Randomized, double-blind, placebo-controlled, multicenter, single and multiple ascending dose study
Primary endpoint	▪ Safety, tolerability and PK of single and multiple doses	▪ Safety, tolerability, and PK of single and multiple doses
Status	▪ FPI Q3 2015	▪ FPI Q2 2016
CT Identifier	NCT02742779	NCT02655614
Collaborator	Xenon Pharmaceuticals Inc.	

Neuroscience development programs

Alzheimer's disease

gRED Genentech Research & Early Development

Molecule	**Anti-Tau** (RG6100)	
Indication	**Prodromal to mild Alzheimer's disease**	
Phase/study	**Phase I**	**Phase II**
# of patients	N=71	N=360
Design	▪ Randomized, double-blind, placebo-controlled, single-center single ascending dose (healthy volunteers) and multiple dose study (healthy volunteers and Alzheimer's patients)	▪ Randomized, double-blind, placebo-controlled, multi-center efficacy and safety study
Primary endpoint	▪ Safety, tolerability and PK of single doses and multiple doses	▪ Safety, CDR-SB score from baseline to week 72
Status	▪ FPI Q2 2016	▪ FPI Q4 2017
CT Identifier	NCT02820896	NCT03289143
Collaborator	AC Immune	

Immunology development programs

Genentech Research & Early Development

Molecule	IL-22Fc (RG7880)	
Indication	**Inflammatory diseases**	**Diabetic foot ulcer**
Phase/study	**Phase Ib**	**Phase Ib**
# of patients	N=48	N=72
Design	▪ Multiple ascending dose study with healthy volunteer and patient cohorts	▪ Multiple ascending dose study in patients with neuropathic diabetic foot ulcers that do not respond adequately to standard wound care
Primary endpoint	▪ Safety and tolerability	▪ Safety and tolerability
Status	▪ FPI Q2 2016	▪ FPI Q4 2016
CT Identifier	NCT02749630	NCT02833389

Immunology development programs

gRED Genentech Research & Early Development

Molecule	ST2 MAb (RG6149, AMG 282, MSTT1041A)	NME (RG7990, BITS7201A)	NME (RG6069, GDC-3280)
Indication	**Asthma**	**Mild atopic asthma**	**Interstitial lung disease**
Phase/study	**Phase IIb ZENYATTA**	**Phase I**	**Phase I**
# of patients	N=500	N=80	N=80
Design	Add-on therapy for the treatment of high-need, uncontrolled asthma in adults (50-week subcutaneous treatment period): ▪ **ARM A:** RG6149 (70 mg) ▪ **ARM B:** RG6149 (210mg) ▪ **ARM C:** RG6149 (490mg) ▪ **ARM D:** Placebo	▪ Single and multiple ascending dose study with healthy volunteer and patient cohorts	▪ Randomized, double-blind, placebo-controlled, ascending, single and multiple oral dose study
Primary endpoint	▪ Percentage of participants with asthma exacerbations	▪ Safety and tolerability	▪ Safety, tolerability, and PK
Status	▪ FPI Q3 2016 ▪ Phase II trial enrolling	▪ FPI Q2 2016	▪ Study completed Q1 2016
CT Identifier	NCT02918019	NCT02748642	NCT02471859
Collaborator	Amgen	Novimmune SA	

Immunology development programs

gRED Genentech Research & Early Development

Molecule	BTK inhibitor (RG7845, GDC-0853)		
Indication	**Rheumatoid arthritis**	**Moderate to severe active systemic lupus erythematosus**	**Chronic spontaneous urticaria**
Phase/study	**Phase II**	**Phase II**	**Phase IIa**
# of patients	N=580	N=240	N=45
Design	Randomized, double-blind, parallel group study in rheumatoid arthritis patients ▪ **Cohort 1:** RG7845 vs adalimumab in patients with inadequate response to previous MTX ▪ **Cohort 2:** RG7845 vs placebo in patients with inadequate response to previous TNF	Randomized, double-blind, placebo-controlled study in active systemic lupus erythematosus patients ▪ **ARM A:** GDC-0853 (high dose) ▪ **ARM B:** GDC-0853 (low dose) ▪ **ARM C:** Placebo	Randomized, double-blind, placebo-controlled study in patients with CSU refractory to H1 anti-histamines ▪ **ARM A:** GDC-0853 ▪ **ARM B:** Placebo
Primary endpoint	▪ ACR 50 and safety	▪ Systemic Lupus Erythematosus Responder Index (SRI)-4 response at Week 48	▪ Change from Baseline in the Urticaria Activity Score over 7 days (UAS7) at Day 57
Status	▪ FPI Q3 2016	▪ FPI Q1 2017	▪ FPI Q2 2017
CT Identifier	NCT02833350	NCT02908100	NCT03137069

CSU=chronic spontaneous urticaria; MTX=methotrexate

Immunology development programs

gRED Genentech Research & Early Development

Molecule	NME (RG6151, GDC-0214)	NME (RG6174, GDC-0334)
Indication	**Asthma**	**Inflammatory disease**
Phase/study	**Phase I**	**Phase I**
# of patients	N=84	N=106
Design	▪ Single and multiple ascending dose study with healthy volunteer and patient cohorts	▪ Single and multiple ascending dose study of GDC-0334 and the effect of food on the pharmacokinetics of GDC-0334 in healthy adult participants
Primary endpoint	▪ Safety, tolerability and biomarker for target engagement (FeNO reduction)	▪ Safety, tolerability, PK of single doses and multiple doses
Status	▪ FPI Q4 2017	▪ FPI Q4 2017
CT Identifier	ACTRN12617001227381p	NCT03381144

Infectious diseases development programs

Molecule	**Anti-*S. aureus* TAC** (RG7861)
Indication	**Serious infections caused by *Staphylococcus aureus***
Phase/study	**Phase Ib**
# of patients	N=24
Design	▪ Establish safety and PK in patients (*S. aureus* bacteremia)
Primary endpoint	▪ Safety and PK
Status	▪ FPI Q3 2017
CT Identifier	NCT03162250
Collaborator	Seattle Genetics, Symphogen

TAC=THIOMAB™ antibiotic conjugate

Ophthalmology development programs

Molecule	**NME** (RG6417)
Indication	**Geographic atrophy**
Phase/study	**Phase I**
# of patients	N≈44
Design	Open-label study of RG6417 following single and multiple intravitreal administrations in patients with GA secondary to AMD ▪ **Stage 1:** Single dose-escalation (SAD) ▪ **Stage 2:** Multiple-dose (MD) stages
Primary endpoint	▪ Safety/tolerability
Status	▪ FPI Q3 2017
CT Identifier	NCT03295877

GA=geographic atrophy; AMD=age-related macular degeneration

Metabolic diseases development programs

gRED Genentech Research & Early Development

Molecule	FGFR1/KLB MAb (RG7992)	
Indication	**Metabolic diseases**	
Phase/study	**Phase Ia**	**Phase Ib**
# of patients	N=79	N=120
Design	Healthy volunteer study ▪ Randomized, blinded, placebo-controlled, single ascending dose of RG7992	Obese type 2 diabetes ▪ Randomized, blinded, placebo-controlled, multiple ascending dose of RG7992
Primary endpoint	▪ Safety and tolerability	▪ Safety, tolerability and PK
Status	▪ FPI Q4 2015 ▪ Recruitment completed Q1 2017	▪ FPI Q1 2017
CT Identifier	NCT02593331	NCT03060538

FGFR1=fibroblast growth factor receptor 1; KLB=β-Klotho

Pipeline summary

Marketed products additional indications

Global Development late-stage trials

pRED (Roche Pharma Research & Early Development)

gRED (Genentech Research & Early Development)

Roche Group 2017 results

Diagnostics

Foreign exchange rate information

Geographical sales split by divisions and Group*

CHFm	2016	2017	% change CER
Pharmaceuticals Division	**39,103**	**41,220**	**+5**
United States	18,594	20,496	**+10**
Europe	9,159	9,051	**-2**
Japan	3,711	3,713	**+3**
International	7,639	7,960	**+4**
Diagnostics Division	**11,473**	**12,079**	**+5**
United States	2,699	2,677	**-1**
Europe	3,841	3,925	**+1**
Japan	478	472	**+2**
International	4,455	5,005	**+12**
Group	**50,576**	**53,299**	**+5**
United States	21,293	23,173	**+9**
Europe	13,000	12,976	**-1**
Japan	4,189	4,185	**+3**
International	12,094	12,965	**+7**

* Geographical sales split shown here does not represent operational organization
CER=Constant Exchange Rates

Pharma Division sales 2017

Top 20 products

	Global		US		Europe		Japan		International	
	CHFm	% CER	CHFm	% CER	CHFm	% CER	CHFm	% CER	CHFm	% CER
MabThera	7,388	1	4,133	6	1,690	-11	293	4	1,272	4
Herceptin	7,014	3	2,697	8	2,123	2	295	-2	1,899	-1
Avastin	6,688	-2	2,894	-2	1,776	-5	817	1	1,201	5
Perjeta	2,196	19	1,013	12	767	21	120	15	296	42
Actemra / RoActemra	1,926	14	756	17	631	12	304	10	235	12
Xolair	1,742	16	1,742	16	-	-	-	-	-	-
Lucentis	1,414	1	1,414	1	-	-	-	-	-	-
TNKase / Activase	1,219	10	1,168	10	-	-	-	-	51	8
Kadcyla	914	10	343	9	347	4	70	-3	154	43
Esbriet	869	13	640	13	190	5	-	-	39	95
Ocrevus	869	-	860	-	4	-	-	-	5	-
Tarceva	843	-18	457	-18	140	-21	92	-9	154	-18
Pulmozyme	730	6	506	7	124	2	-	-	100	10
CellCept	697	-6	120	-30	178	-1	78	13	321	1
Tamiflu	535	-33	239	-49	27	-74	148	25	121	13
Mircera	505	-1	-	-	84	-5	210	-1	211	1
Tecentriq	487	209	456	196	17	*	-	-	14	*
Xeloda	453	-10	36	-55	26	-19	107	-1	284	0
Alecensa	362	101	173	136	26	*	147	41	16	-
Madopar	334	13	-	-	103	3	16	-1	215	20

CER=Constant Exchange Rates

* over 500%

Pharma Division sales 2017
Recently launched products

	Global		US		Europe		Japan		International	
	CHFm	% CER	CHFm	% CER	CHFm	% CER	CHFm	% CER	CHFm	% CER
Gazyva	278	41	158	36	80	49	-	-	40	43
Alecensa	362	101	173	136	26	*	147	41	16	-
Cotellic	60	30	16	19	35	14	-	-	9	*
Tecentriq	487	209	456	196	17	*	-	-	14	*
Ocrevus	869	-	860	-	4	-	-	-	5	-
Hemlibra	3	-	3	-	-	-	-	-	-	-

CER=Constant Exchange Rates

* over 500%

Pharma Division CER sales growth[1] in %

Global top 20 products

	Q4/16	Q1/17	Q2/17	Q3/17	Q4/17
MabThera	2	4	3	1	-3
Herceptin	0	2	4	0	6
Avastin	-4	-2	0	-4	1
Perjeta	14	19	16	17	22
Actemra / RoActemra	14	15	12	13	14
Xolair	8	22	13	17	15
Lucentis	-14	9	-5	8	-11
TNKase / Activase	15	13	12	15	0
Kadcyla	2	11	7	10	12
Esbriet	10	13	19	3	17
Ocrevus	-	-	-	-	-
Tarceva	-11	-19	-15	-16	-21
Pulmozyme	1	9	-1	8	10
CellCept	-10	-10	-4	-8	-1
Tamiflu	72	-27	110	-61	-52
Mircera	23	-4	-2	-2	3
Tecentriq	-	-	*	104	65
Xeloda	18	-7	5	-4	-28
Alecensa	134	124	88	100	99
Madopar	6	18	10	10	14

CER=Constant Exchange Rates

[1] Q4/16 vs. Q4/15; Q1-Q4/17 vs. Q1-Q4/16

* over 500%

Pharma Division CER sales growth[1] in %

Top 20 products by region

	US				Europe				Japan				International			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
MabThera	6	3	9	6	1	-3	-16	-26	-3	5	7	5	4	10	1	0
Herceptin	3	8	3	16	3	2	-2	6	-4	-1	0	-1	0	2	0	-5
Avastin	-2	-3	-5	1	-3	-7	-8	-3	-8	2	5	5	7	15	-5	1
Perjeta	14	7	10	18	21	21	20	21	7	14	22	15	47	41	35	45
Actemra / RoActemra	21	13	18	16	17	14	7	12	4	9	12	15	7	9	16	16
Xolair	22	13	17	15	-	-	-	-	-	-	-	-	-	-	-	-
Lucentis	9	-5	8	-11	-	-	-	-	-	-	-	-	-	-	-	-
TNKase / Activase	14	12	15	0	-	-	-	-	-	-	-	-	0	11	16	5
Kadcyla	11	2	7	15	5	5	2	3	-9	-12	2	6	49	44	53	29
Esbriet	19	20	3	11	-2	13	-7	17	-	-	-	-	10	62	113	263
Ocrevus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tarceva	-21	-15	-13	-24	-22	-15	-27	-18	-4	-10	-9	-11	-18	-15	-19	-19
Pulmozyme	10	2	4	11	10	2	-6	1	-	-	-	-	3	-17	50	15
CellCept	-26	-23	-41	-29	3	-1	-2	-1	9	13	14	14	-11	2	4	9
Tamiflu	-39	125	-83	-70	-30	-96	-88	-81	5	183	63	36	-4	222	-29	-45
Mircera	-	-	-	-	3	2	-12	-14	-6	0	3	-1	-5	-7	-2	16
Tecentriq	-	*	99	48	-	-	130	*	-	-	-	-	-	-	-	301
Xeloda	30	68	-38	-94	-28	-27	5	-25	-3	-4	-1	5	-8	1	-1	11
Alecensa	244	137	113	112	-	-	*	*	50	35	44	39	-	-	-	-
Madopar	-	-	-	-	0	0	5	6	-2	-3	1	2	30	18	13	20

CER=Constant Exchange Rates

[1] Q1-Q4/17 vs. Q1-Q4/16

* over 500%

CER sales growth (%)
Quarterly development

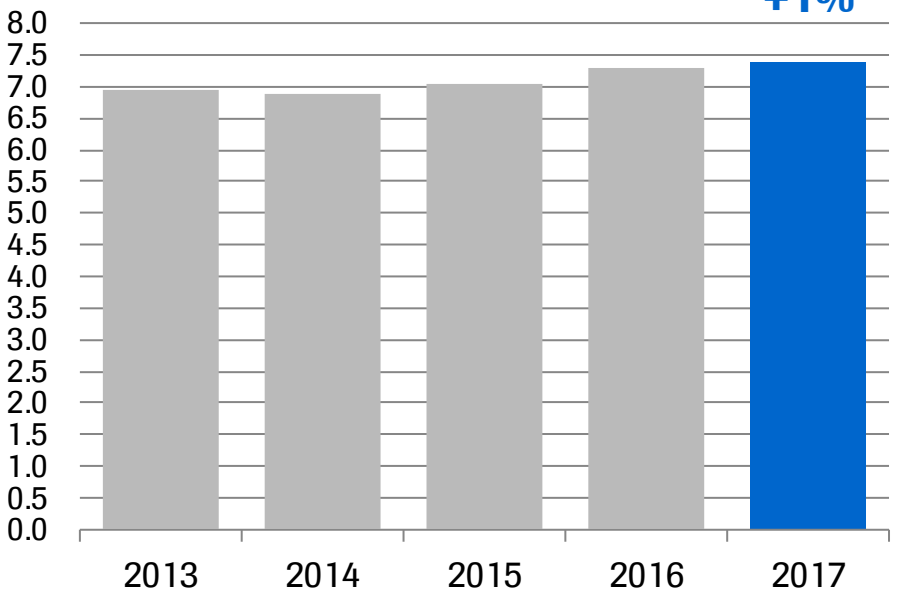
	2016 vs. 2015				2017 vs. 2016			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Pharmaceuticals Division	**4**	**5**	**2**	**3**	**3**	**7**	**6**	**6**
United States	3	5	1	3	6	10	12	12
Europe	5	6	5	2	1	0	-5	-5
Japan	4	1	-3	3	-2	2	6	6
International	4	5	2	3	1	8	2	3
Diagnostics Division	**5**	**8**	**8**	**5**	**6**	**4**	**6**	**4**
Roche Group	**4**	**6**	**3**	**3**	**4**	**6**	**6**	**5**

CER=Constant Exchange Rates

MabThera/Rituxan

Global sales

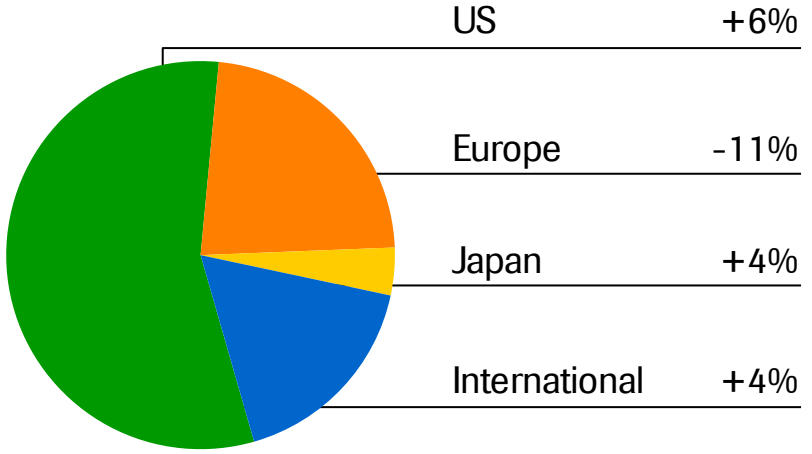
CHFbn



CER growth

+1%

Regional sales



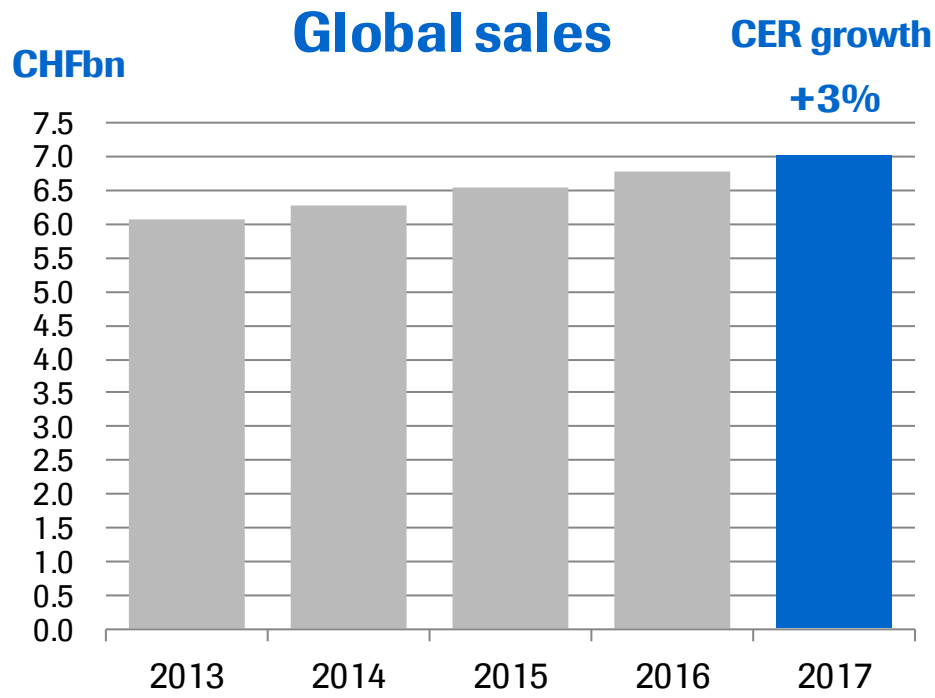
CER growth

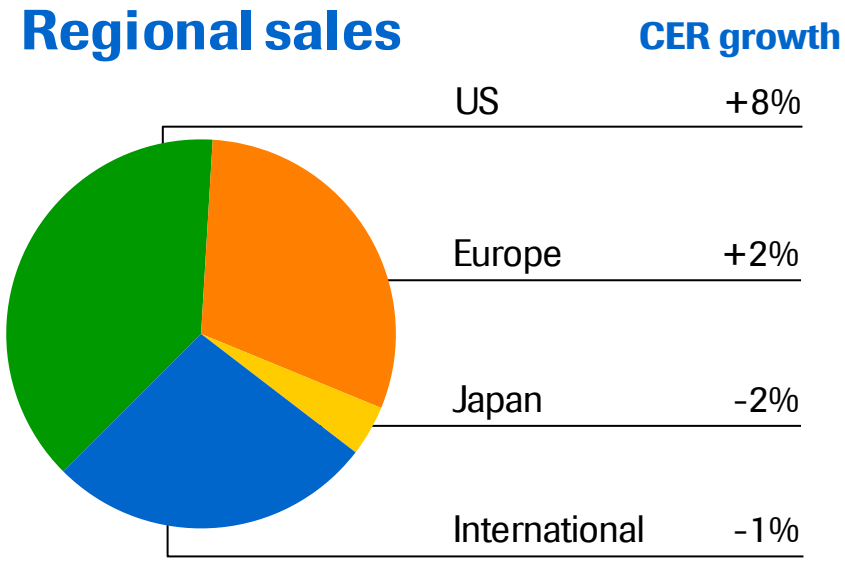
2017 sales of CHF 7,388m

- Immunology sales grew +5% (driven by the US in 2L RA and GPA/MPA)
- Oncology sales were unchanged +0% as saturation has been achieved in key markets
- EU: Accelerated sales decline due to the entry of the first two biosimilars
- International: Growth driven by EEMEA and LATAM

CER=Constant Exchange Rates

Herceptin





2017 sales of CHF 7,014m

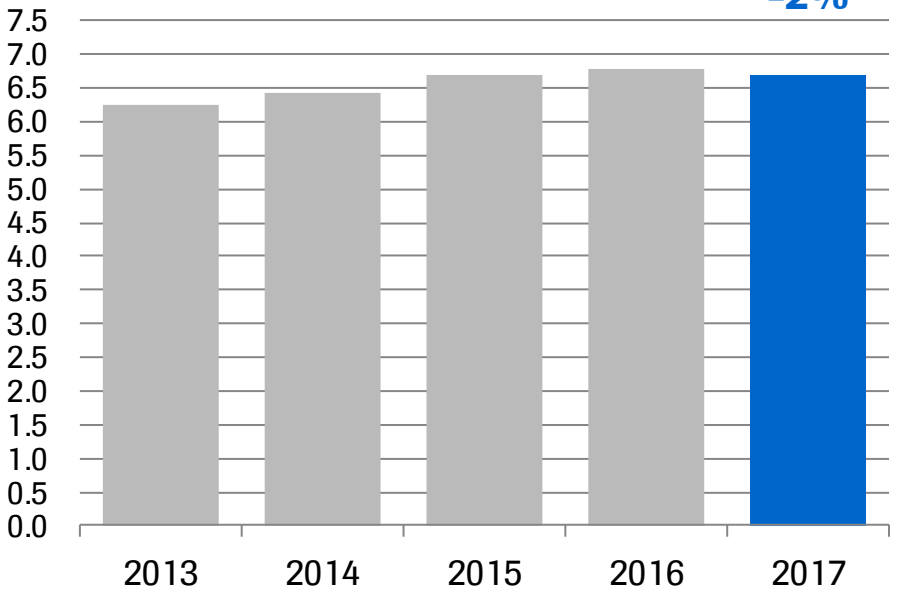
- US: Volume growth and pricing
- EU: Volume growth due to prolonged treatment duration in 1L mBC slowing
- International: Growth in LATAM mainly offset by EEMEA

CER=Constant Exchange Rates

Avastin

Global sales

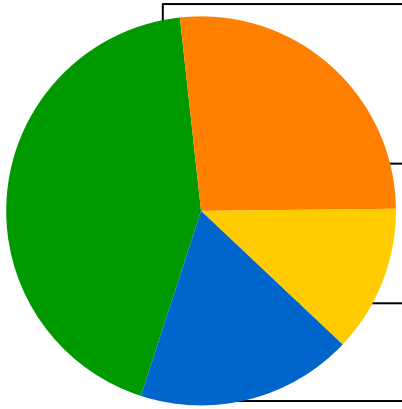
CHFbn



CER growth

-2%

Regional sales



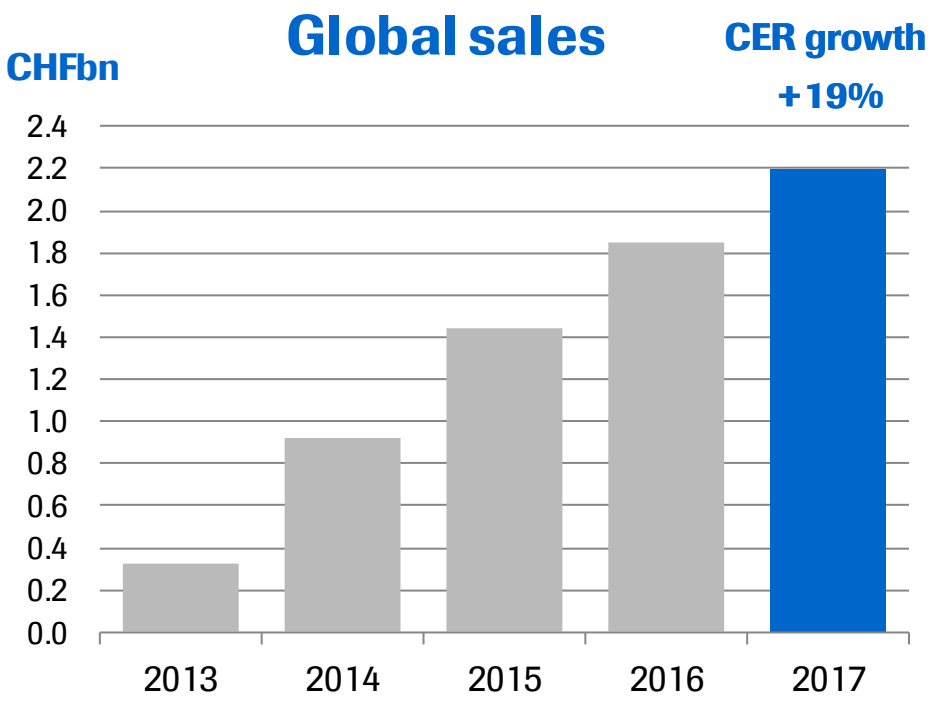
	CER growth
US	-2%
Europe	-5%
Japan	+1%
International	+5%

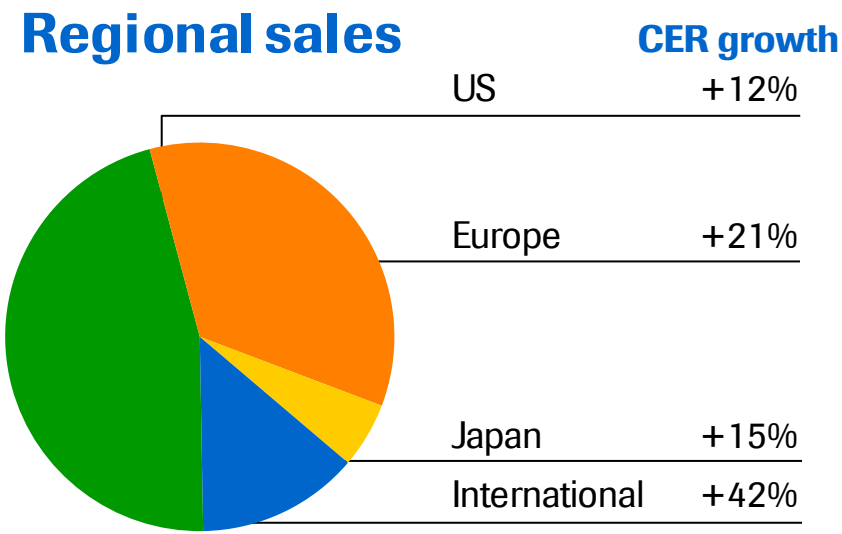
2017 sales of CHF 6,688m

- US: Sales decline due to cancer immunotherapy competition in 1/2L lung slowing down
- EU: Stable patient shares in all indications, but impacted by 1L breast cancer delisting in France
- International: Growth mainly driven by China in 1L lung and colorectal cancer

CER=Constant Exchange Rates

Perjeta





2017 sales of CHF 2,196m

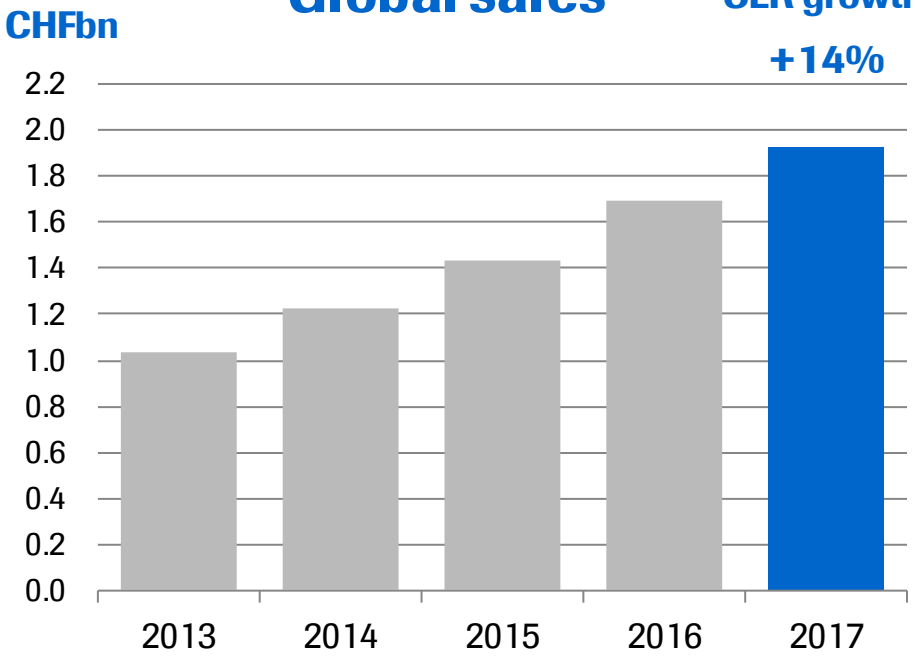
- US: Growth driven by 1L mBC and neoadjuvant; Early APHINITY approval achieved in Q4
- EU: Growth driven by neoadjuvant and 1L mBC in all key markets
- International: Strong growth in all region as roll-out progresses

CER=Constant Exchange Rates

Actemra/RoActemra

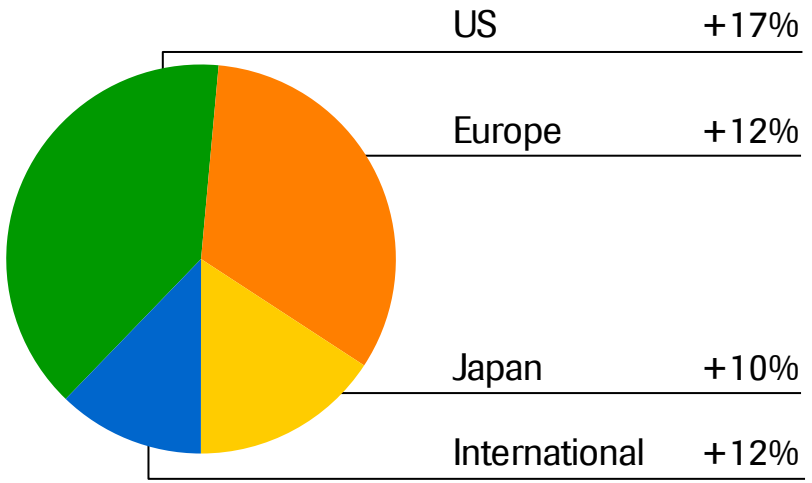
Global sales

CER growth +14%



Regional sales

CER growth



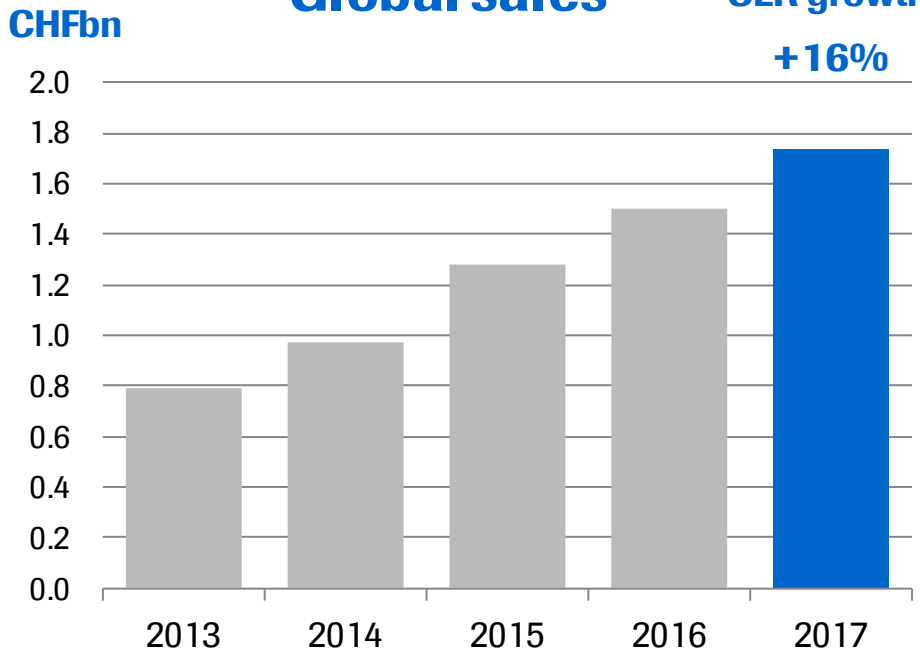
2017 sales of CHF 1,926m

- US: Growth driven by continued SC uptake
- EU: Growth driven by monotherapy market share gains, including 1L monotherapy
- International: Growth driven by LATAM and APAC

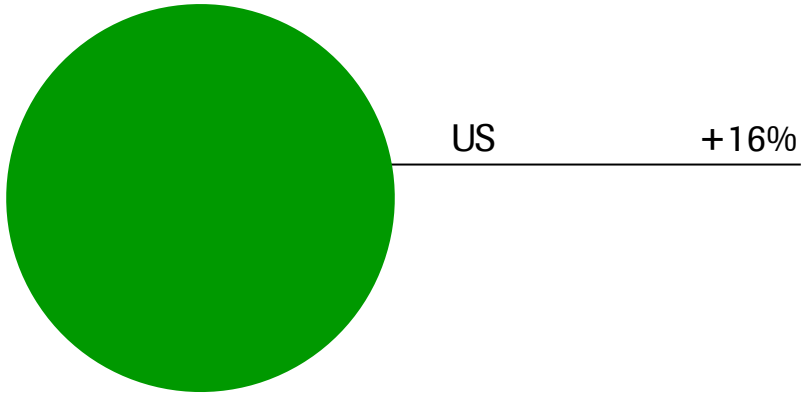
CER=Constant Exchange Rates

Xolair

Global sales



Regional sales



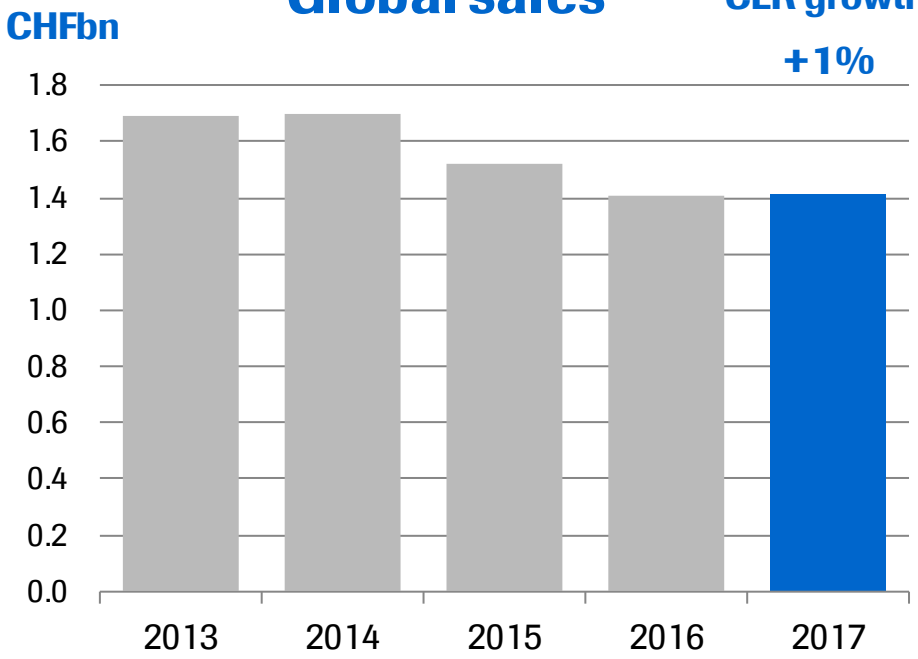
2017 sales of CHF 1,742m

- Growth driven by pediatrics asthma launch, allergic asthma and chronic idiopathic urticaria

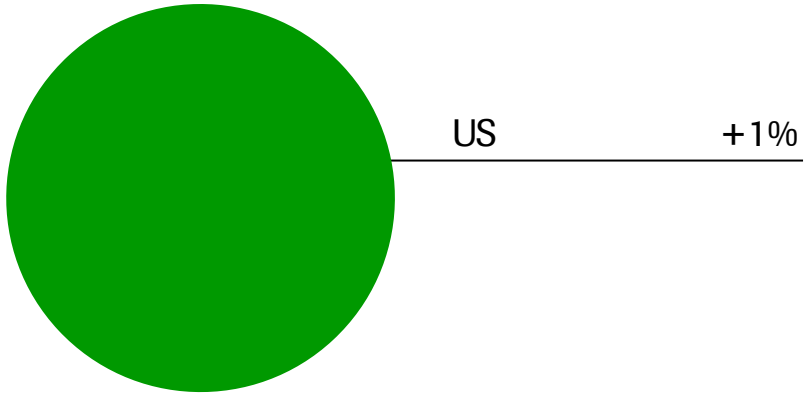
CER=Constant Exchange Rates

Lucentis

Global sales



Regional sales



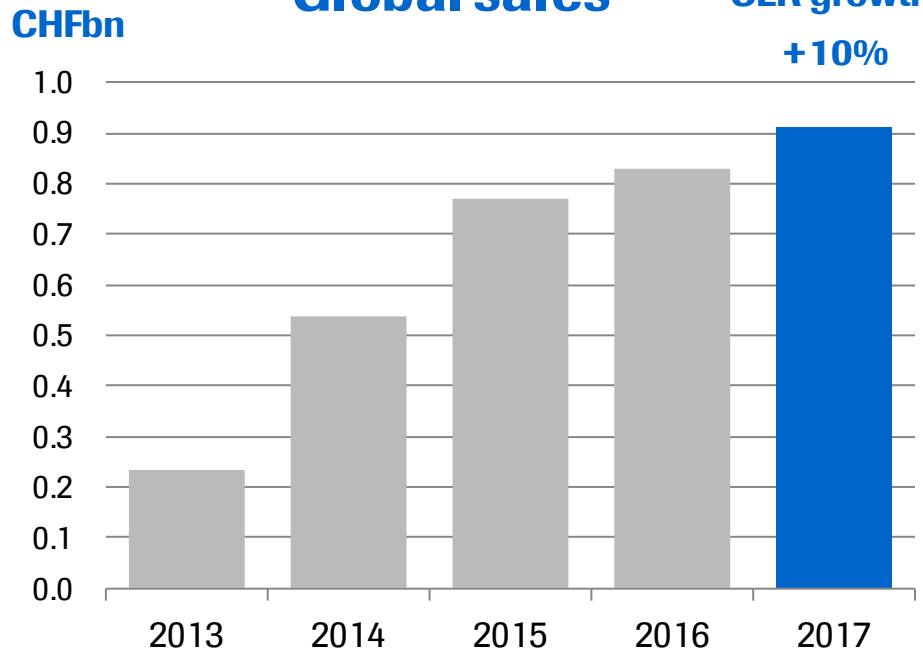
2017 sales of CHF 1,414m

- First prefilled syringe launched for wAMD and macular edema after retinal vein oclusion
- First-in-class launches in mCNV and DR w/o DME on-going

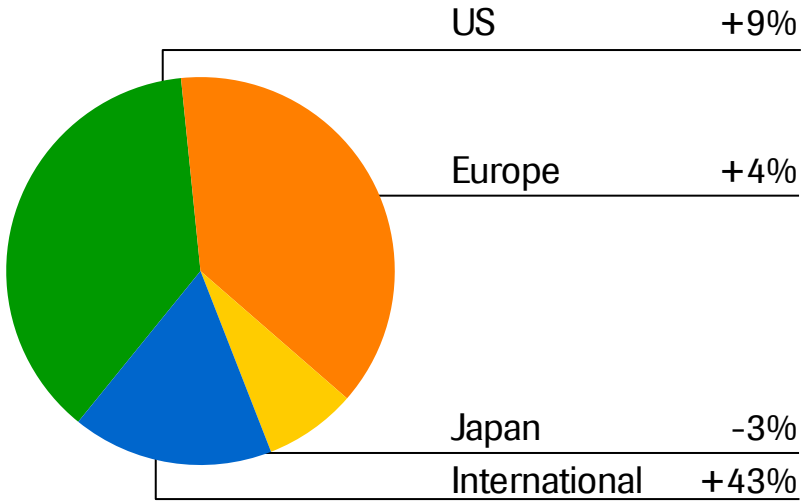
CER=Constant Exchange Rates

Kadcyla

Global sales



Regional sales



2017 sales of CHF 914m

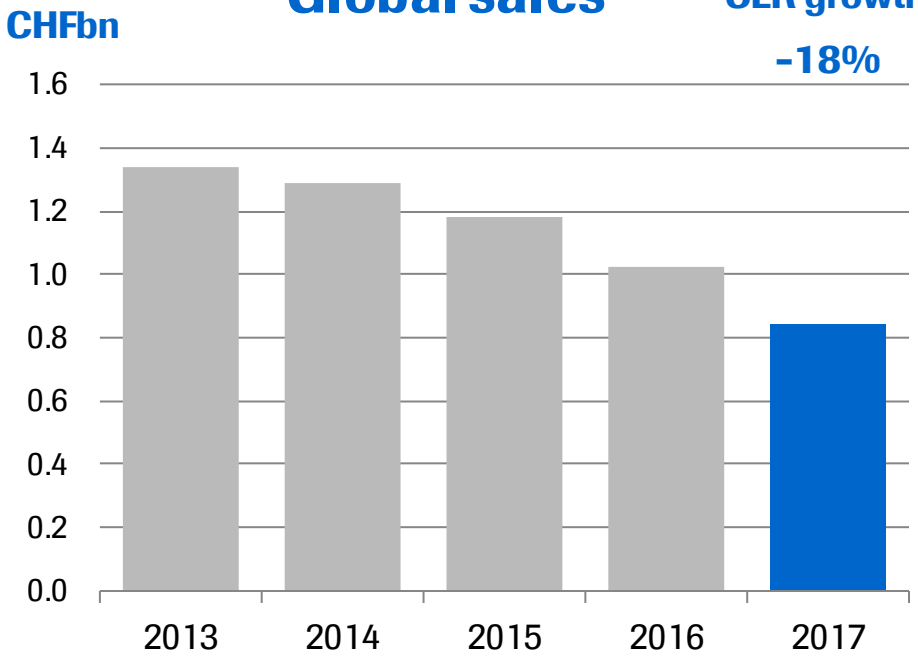
- Growing patient shares in 2L mBC in the US and EU
- International: Growth driven by all regions as roll-out progresses

CER=Constant Exchange Rates

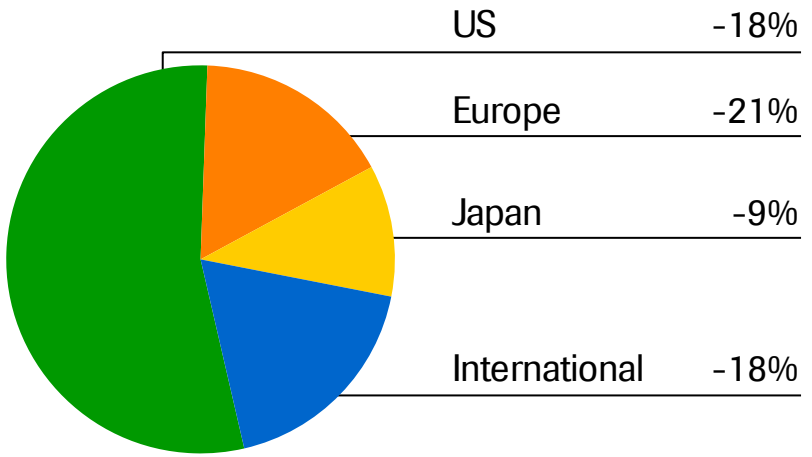
Tarceva

Global sales

CER growth -18%



Regional sales

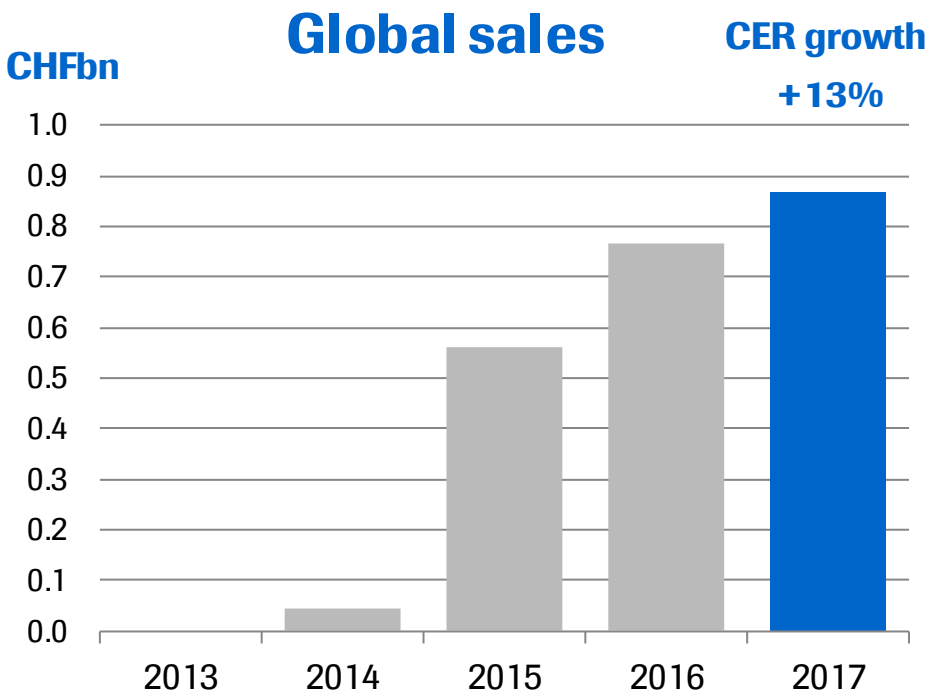


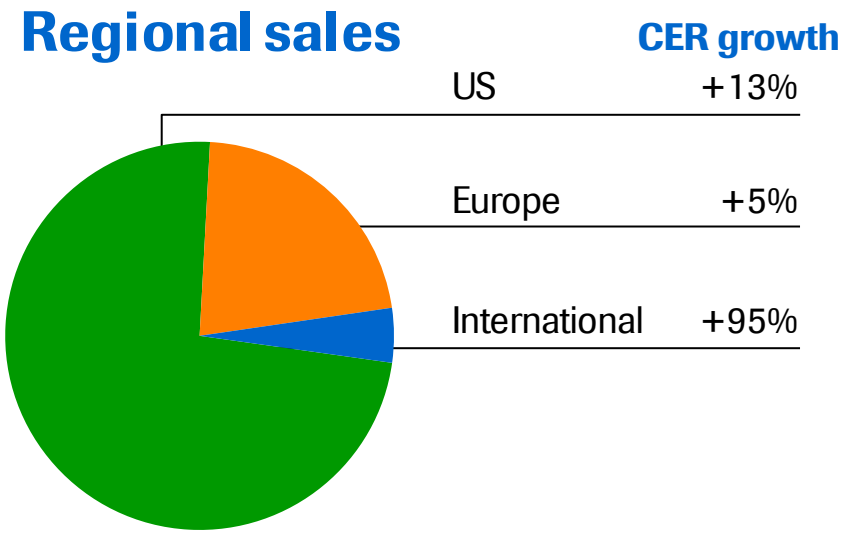
2017 sales of CHF 843m

- Sales decline in all regions
- Continued decline due to in-class competition (1L EGFR Mut+ NSCLC and 2/3L EGFR WT NSCLC) and out-of-class competition from immunotherapies (2L WT NSCLC)

CER=Constant Exchange Rates

Esbriet



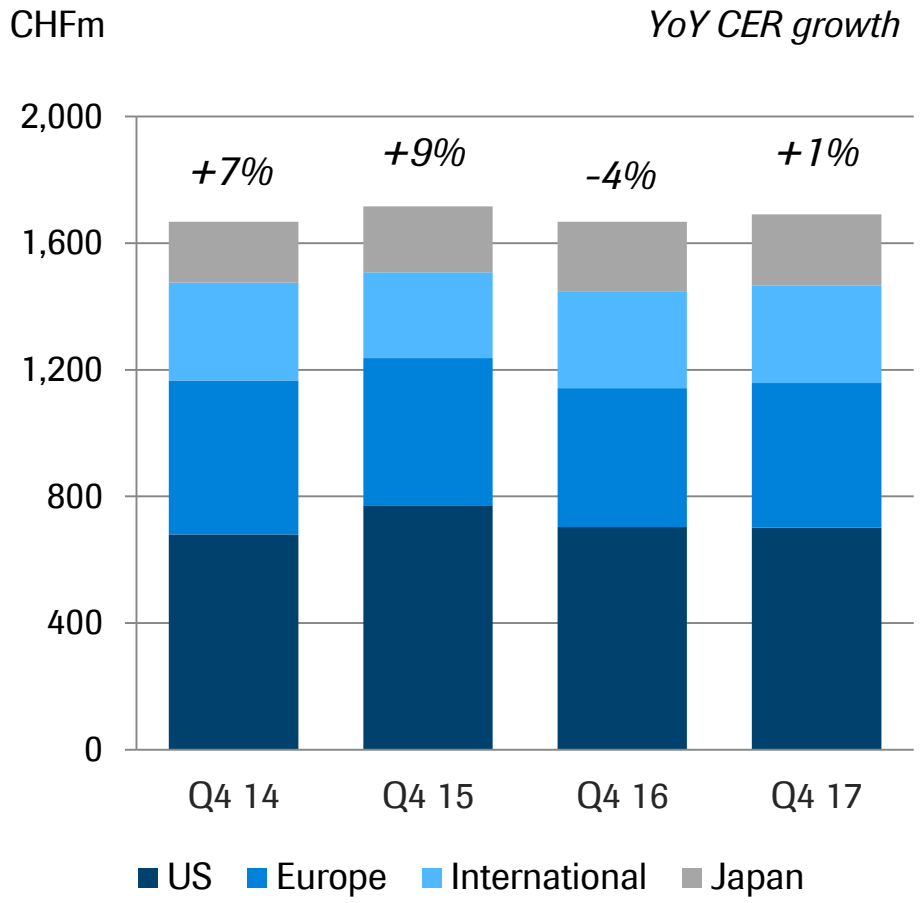


2017 sales of CHF 869m

- US: Growth driven by continued penetration in moderate and mild patients
- EU: Growth driven by continued penetration in moderate and mild patients
- Overall market leadership in US and EU5 maintained

CER=Constant Exchange Rates

Avastin: Positive Ph III readouts with Tecentriq in NSCLC and RCC



Avastin Q4 2017

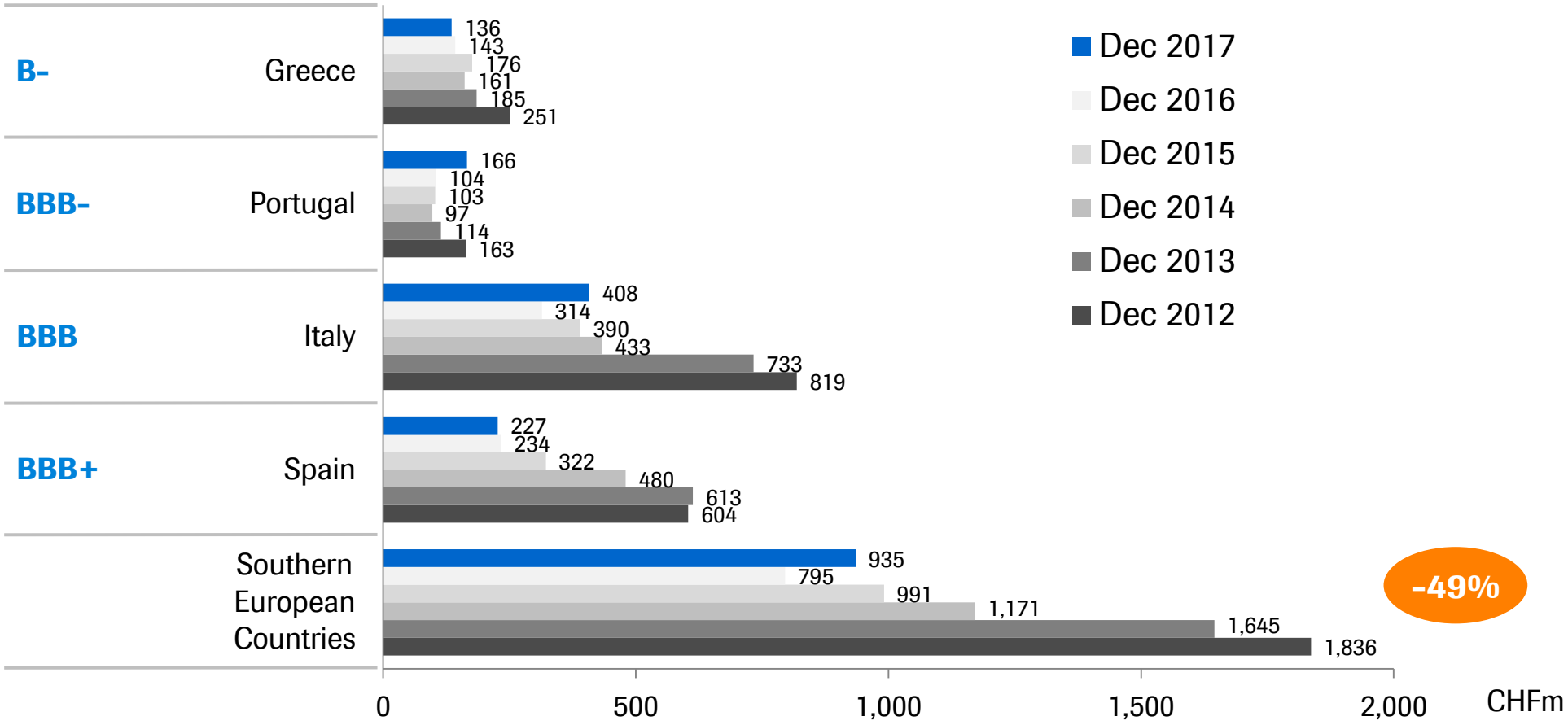
- US (+1%): Market shares in lung cancer stabilizing following competition from CIT
- EU (-3%): Delisting of breast cancer indication in France
- International (+1%): Growth driven by China

Outlook 2018

- US/EU filing of Tecentriq+Avastin+cb/pac in 1L non-sq NSCLC (IMpower150)
- US/EU filing of Tecentriq+Avastin in 1L RCC (IMmotion151)

CER=Constant Exchange Rates; CIT=cancer immunotherapy; cb=carboplatin; pac=paclitaxel; NSCLC=non small cell lung cancer; RCC=renal cell carcinoma

2017: Accounts receivable in Southern Europe decreased by -49% since 2012



Sovereign country ratings from Standard & Poor's, as of 9 Jan 2018

Pipeline summary

Marketed products additional indications

Global Development late-stage trials

pRED (Roche Pharma Research & Early Development)

gRED (Genentech Research & Early Development)

Roche Group 2017 results

Diagnostics

Foreign exchange rate information

2017: Diagnostics Division CER growth
By Region and Business Area (vs. 2016)

	Global		North America		EMEA[1]		RoW	
	CHFm	% CER growth	CHFm	% CER growth	CHFm	% CER growth	CHFm	% CER growth
Centralised and Point of Care Solutions	7,179	7	1,465	1	2,577	3	3,137	14
Diabetes Care	1,965	-4	221	-23	1,236	-3	508	6
Molecular Diagnostics	1,920	4	726	0	708	4	486	8
Tissue Diagnostics	1,015	11	599	8	252	13	164	20
Diagnostics Division	**12,079**	**5**	**3,011**	**0**	**4,773**	**2**	**4,295**	**12**

CER=Constant Exchange Rates
[1] Europe, Middle East and Africa

Diagnostics Division quarterly sales and CER growth[1]

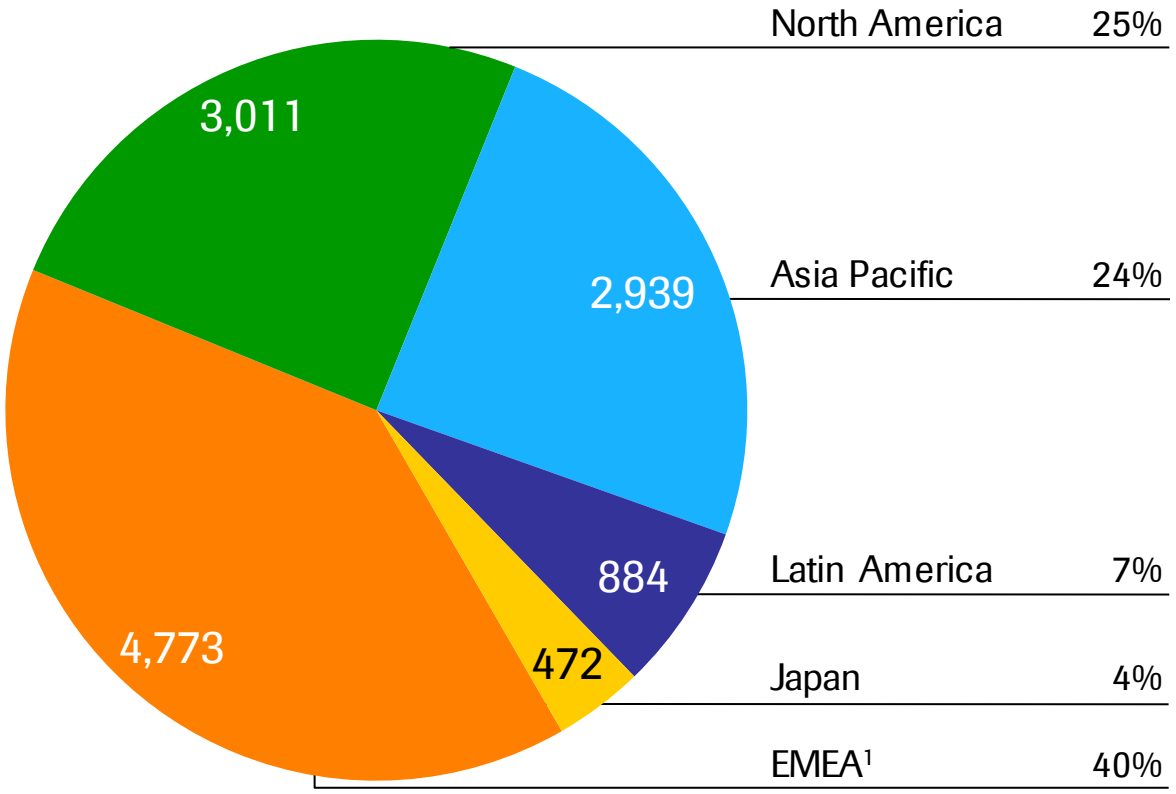
	Q3 16		Q4 16		Q1 17		Q2 17		Q3 17		Q4 17	
	CHFm	% CER	CHFm	% CER	CHFm	% CER	CHFm	% CER	CHFm	% CER	CHFm	% CER
Centralised and Point of Care Solutions	1,651	9	1,814	9	1,641	9	1,815	7	1,755	7	1,968	7
Diabetes Care	486	3	532	-9	447	1	515	-7	502	2	501	-9
Molecular Diagnostics	442	6	500	6	441	-2	479	4	468	6	532	5
Tissue Diagnostics	224	15	262	16	236	15	249	12	250	13	280	6
Dia Division	**2,803**	**8**	**3,108**	**5**	**2,765**	**6**	**3,058**	**4**	**2,975**	**6**	**3,281**	**4**

CER=Constant Exchange Rates
[1] versus same period of prior year

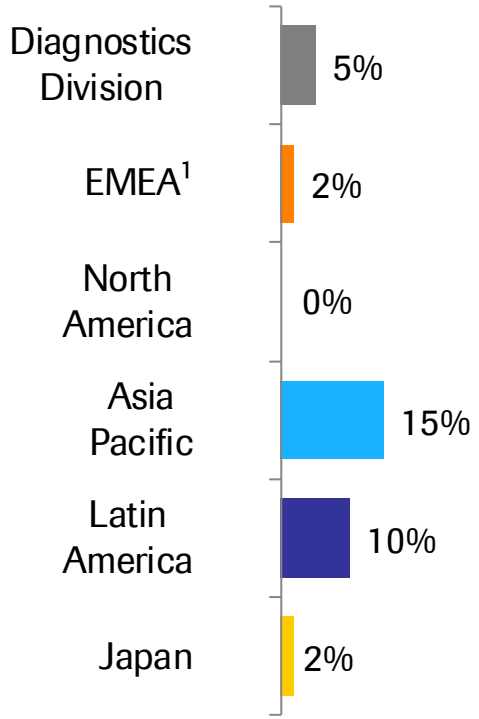
2017: Diagnostics Division sales

Growth driven by Asia Pacific and EMEA

CHF 12,079m



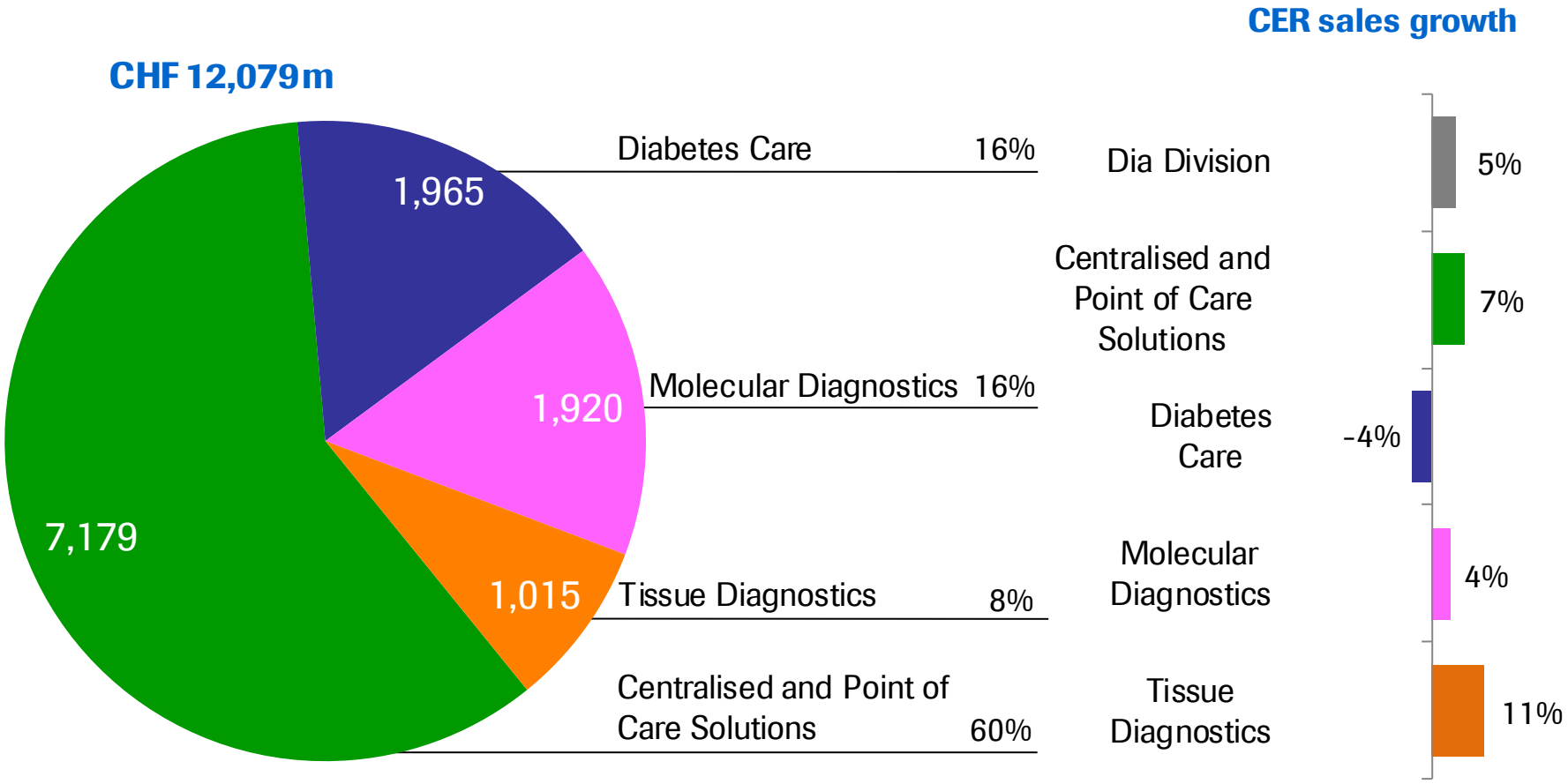
CER sales growth



CER=Constant Exchange Rates
¹ Europe, Middle East and Africa

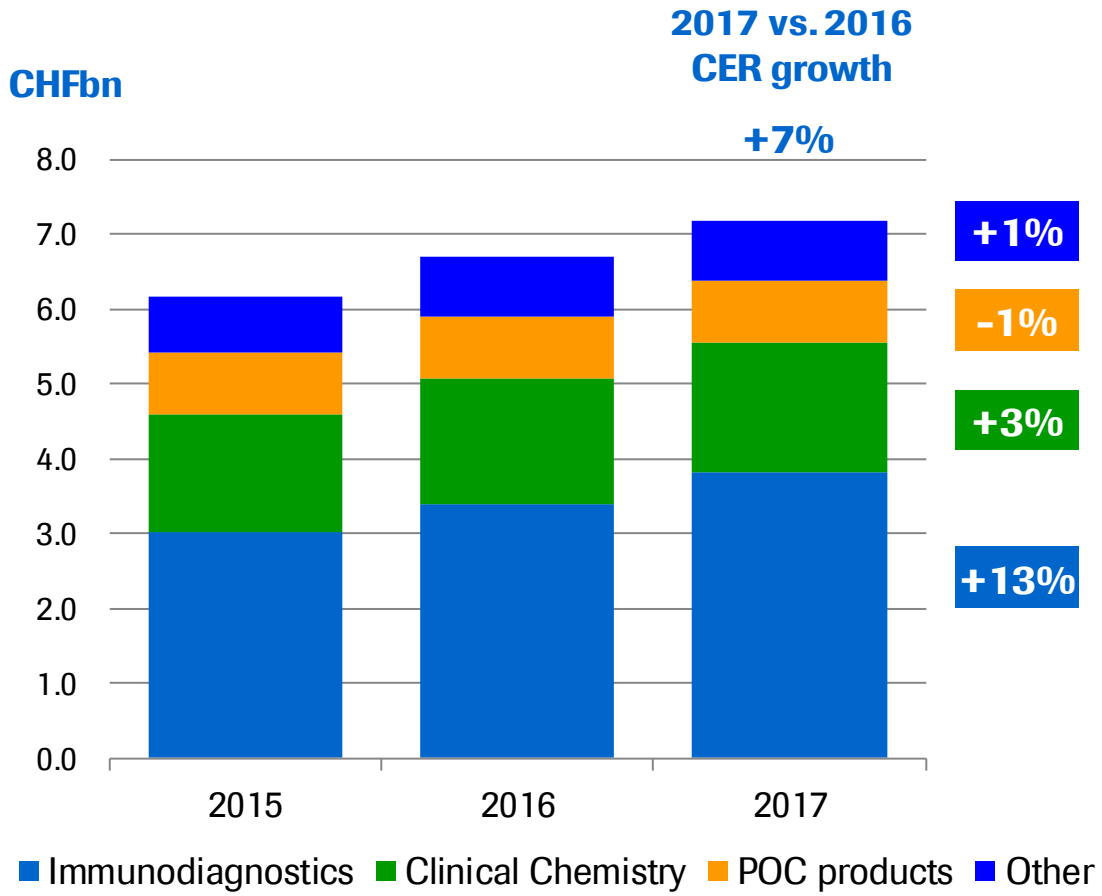
2017: Diagnostics Division sales

Growth driven by Centralised and Point of Care Solutions



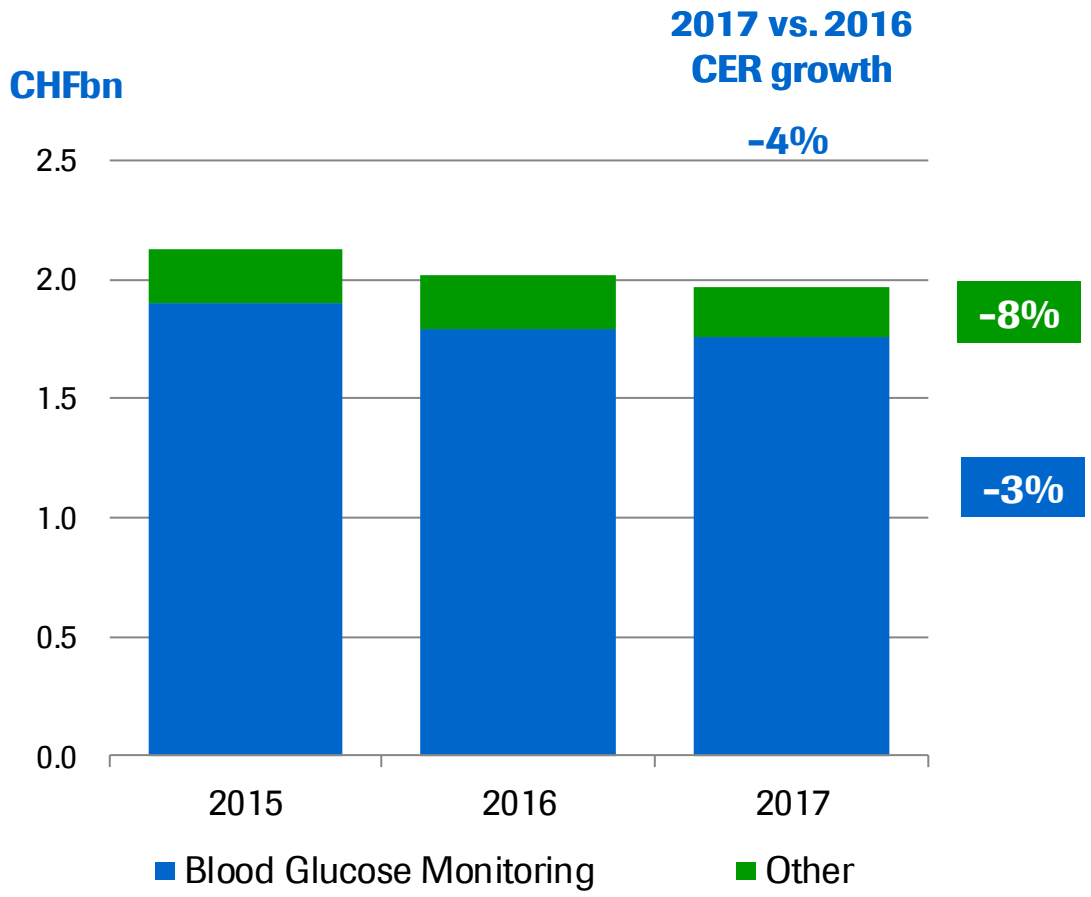
CER=Constant Exchange Rates

Centralised and Point of Care Solutions



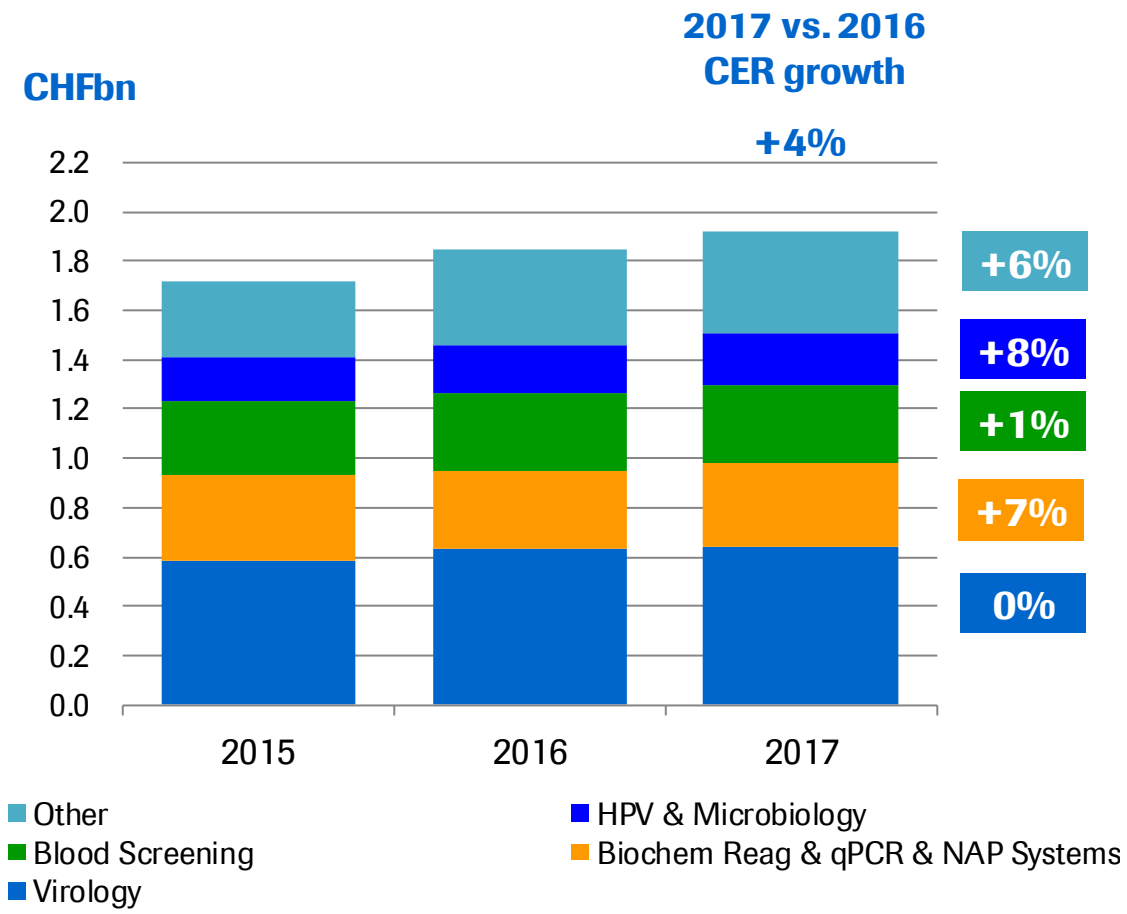
CER=Constant Exchange Rates

Diabetes Care



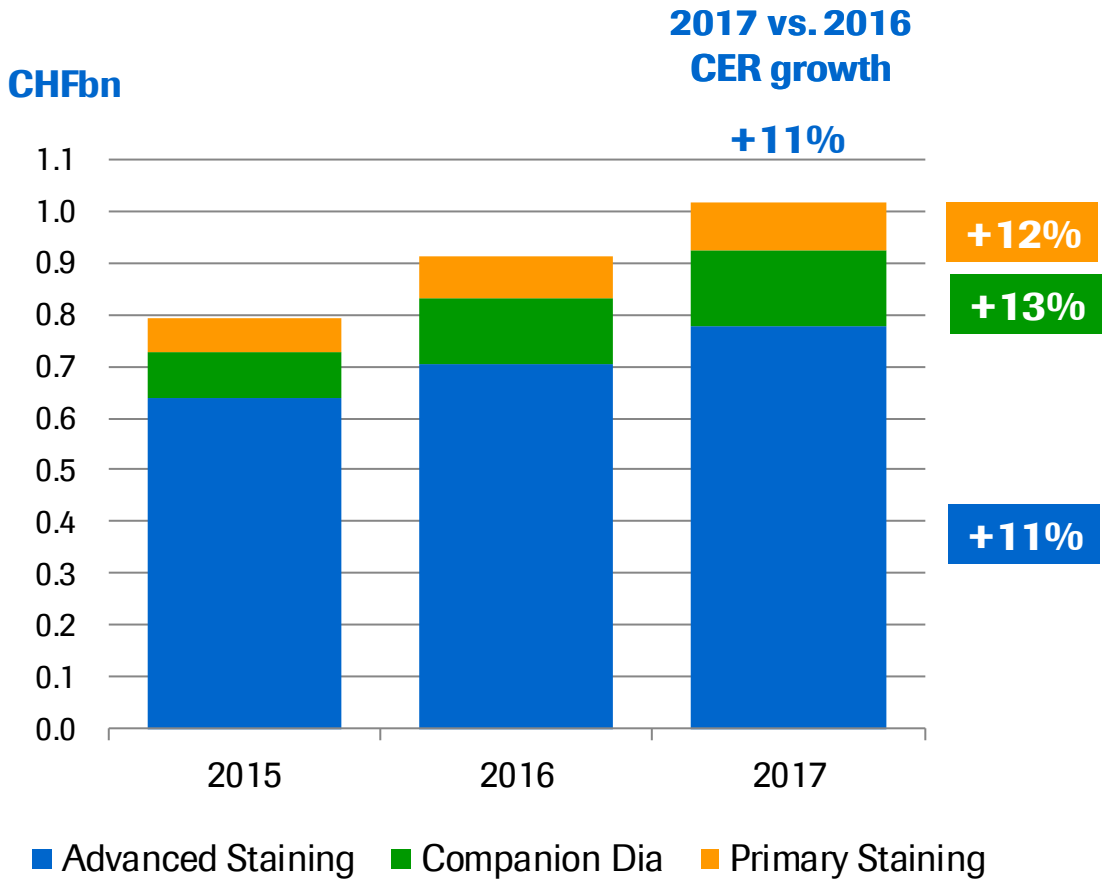
CER=Constant Exchange Rates

Molecular Diagnostics



CER=Constant Exchange Rates

Tissue Diagnostics



CER=Constant Exchange Rates

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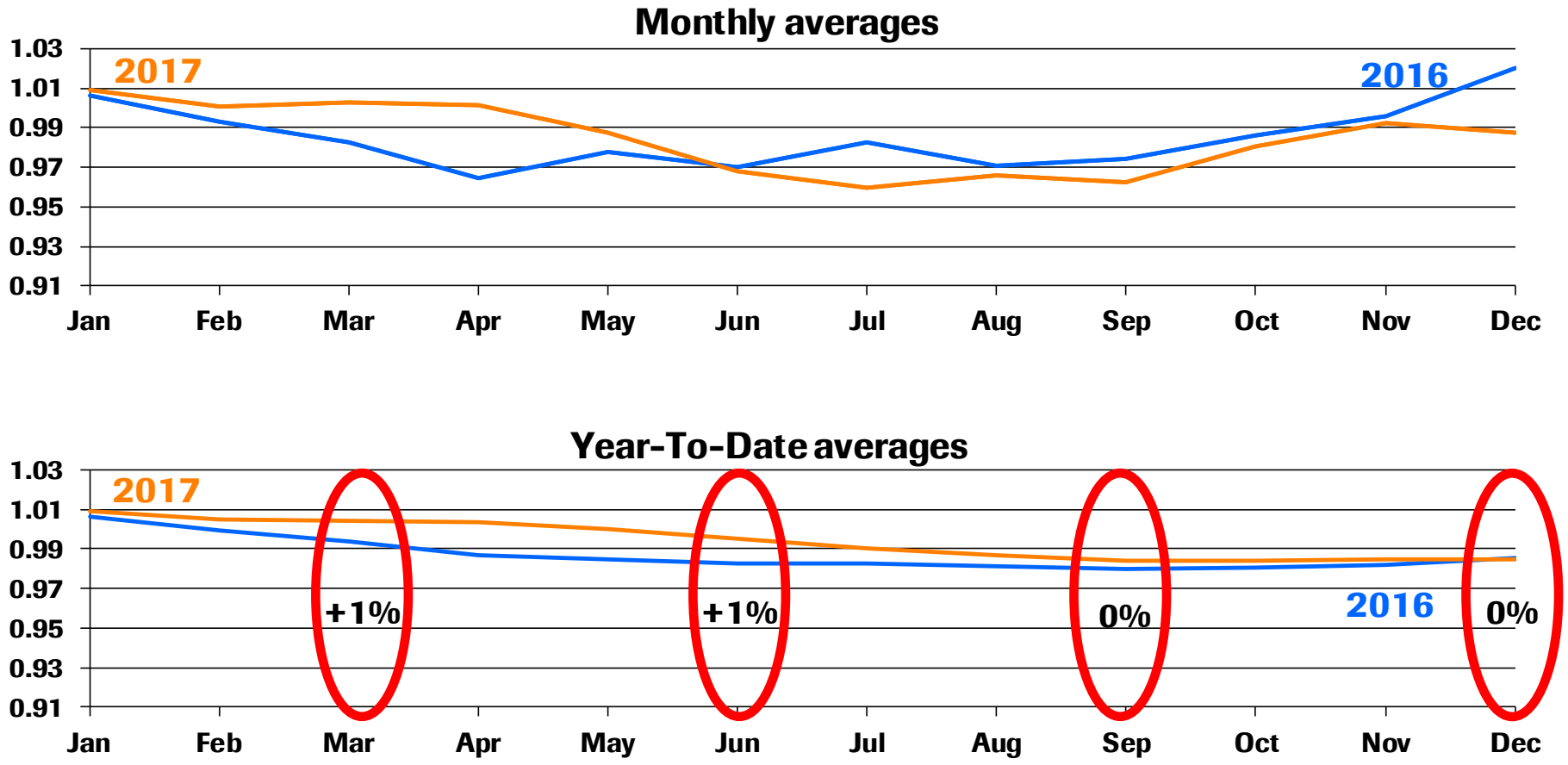
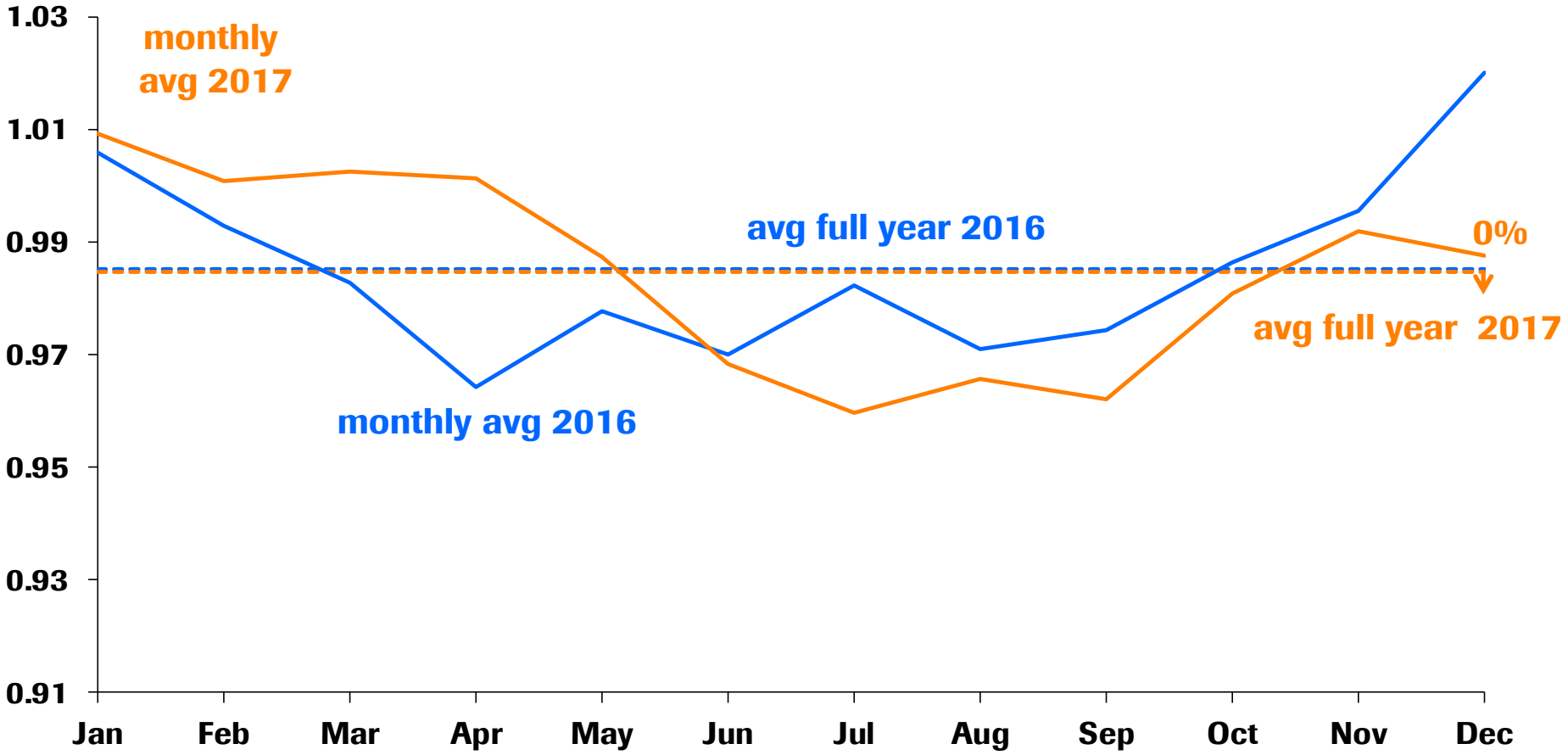
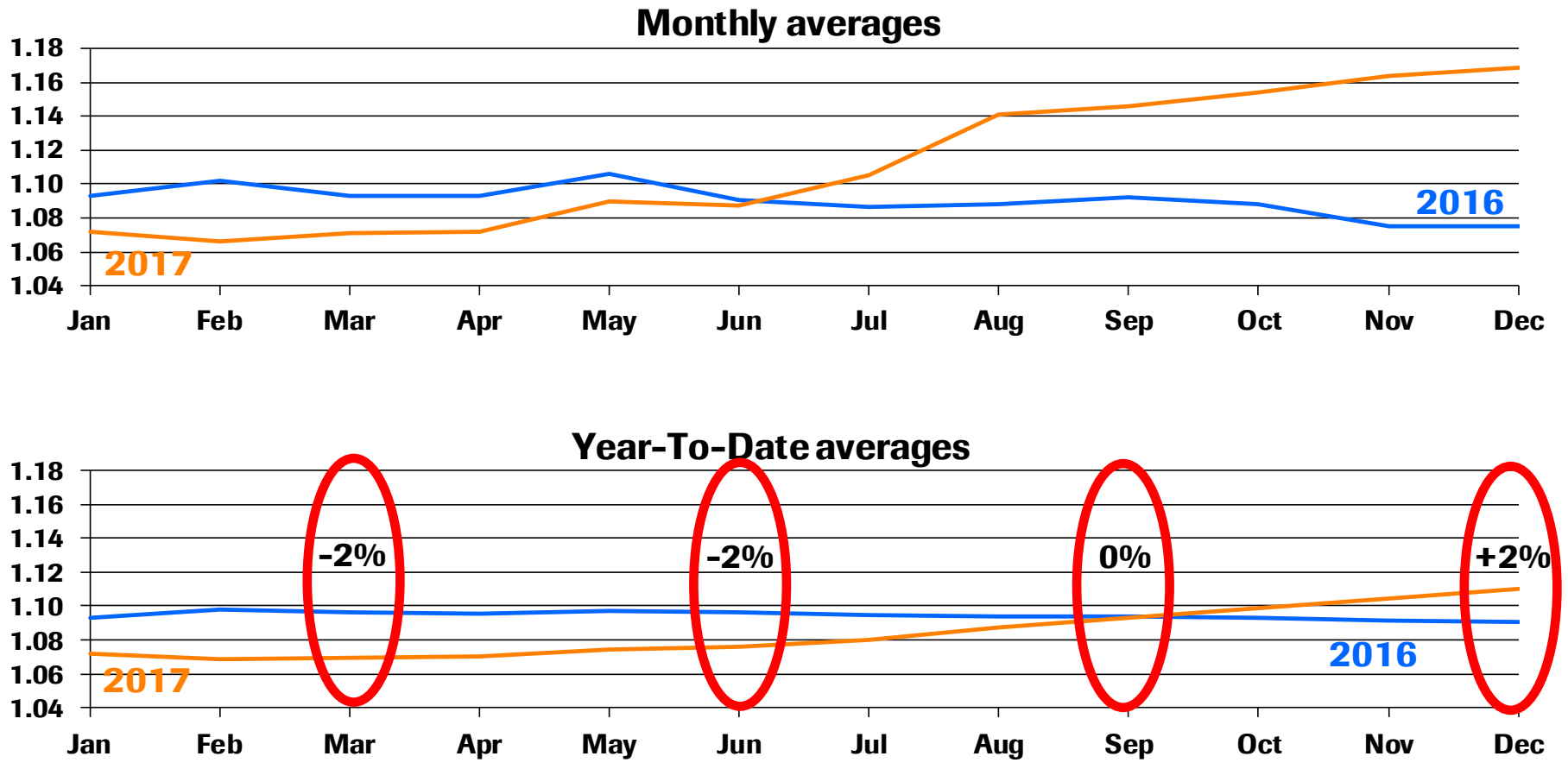
CHF / USD


Monthly averages
1.03
1.01
0.99
0.97
0.95
0.93
0.91
2017
2016
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Year-To-Date averages
1.03
1.01
0.99
0.97
0.95
0.93
0.91
2017
+1%
+1%
0%
2016
0%
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec

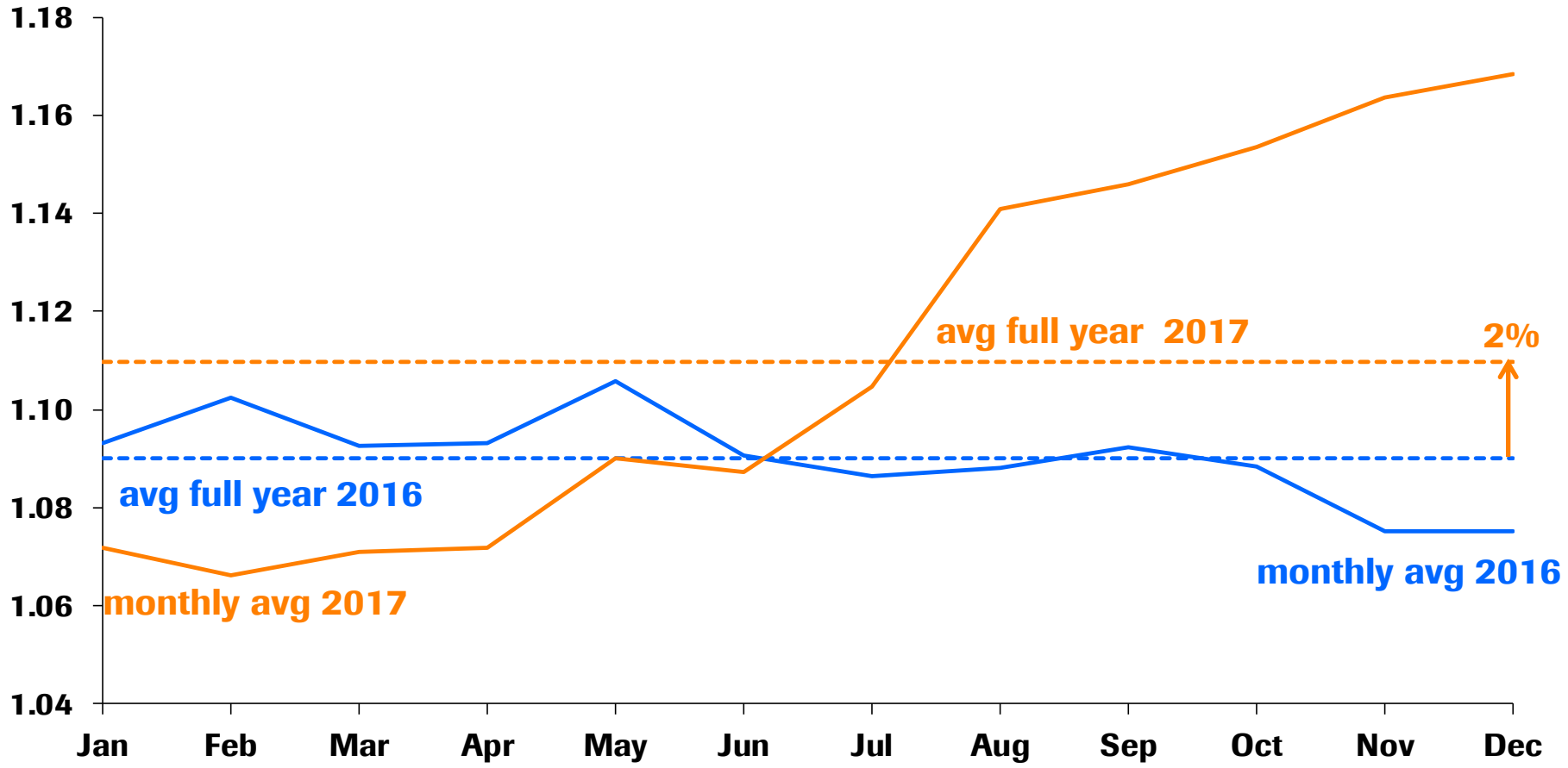
CHF / USD


1.03
1.01
0.99
0.97
0.95
0.93
0.91
monthly
avg 2017
avg full year 2016
0%
avg full year 2017
monthly avg 2016
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec

CHF / EUR

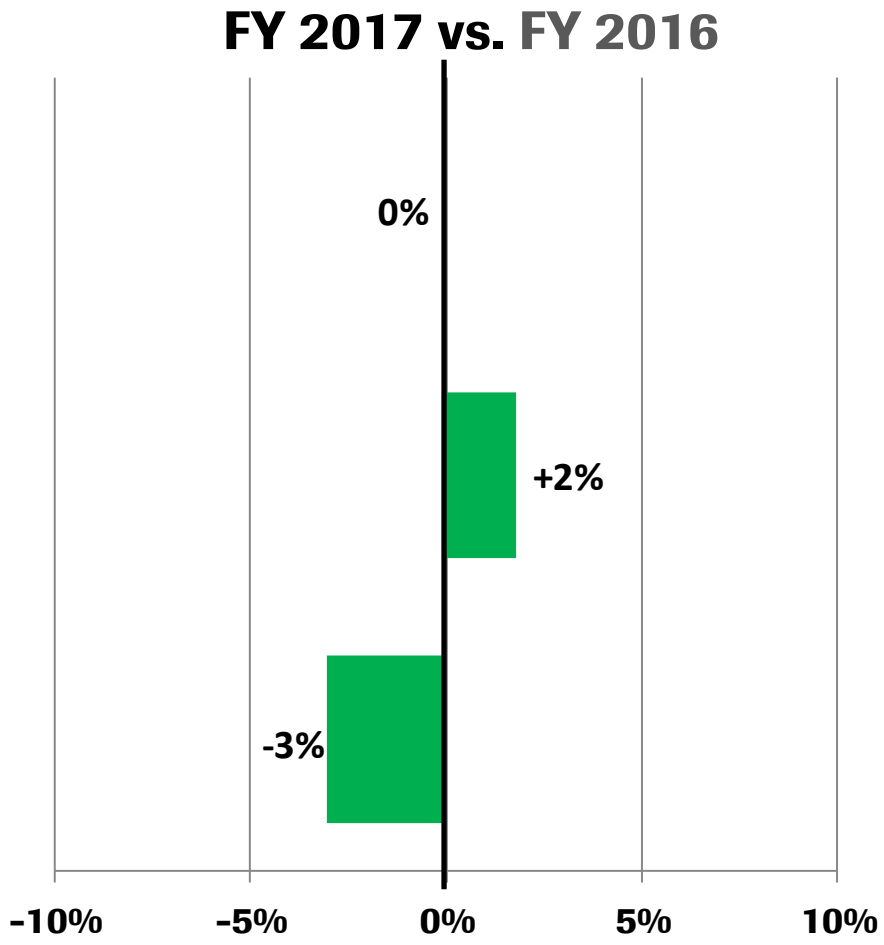

Monthly averages
1.18
1.16
1.14
1.12
1.10
1.08
1.06
1.04
2016
2017
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Year-To-Date averages
-2%
-2%
0%
+2%
2016
2017

CHF / EUR


1.18
1.16
1.14
1.12
1.10
1.08
1.06
1.04
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
avg full year 2017
2%
avg full year 2016
monthly avg 2016
monthly avg 2017

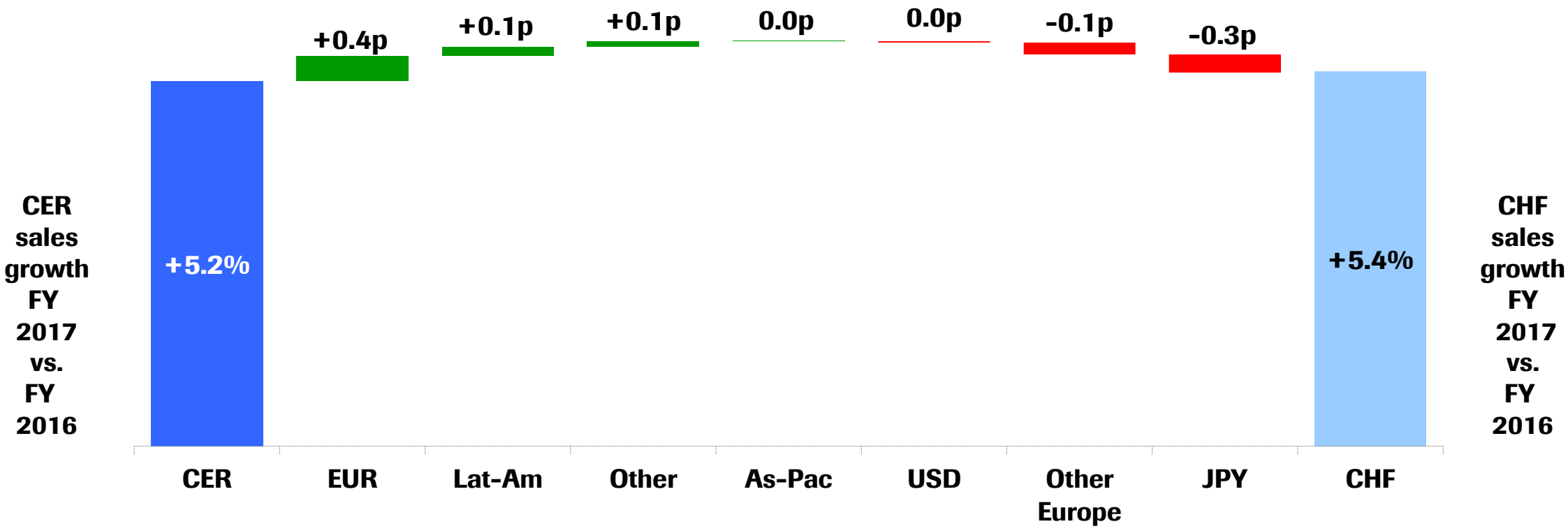
Average CHF exchange rates

	FY 2017	FY 2016
USD	0.98	0.99
EUR	1.11	1.09
JPY	0.88	0.91



Exchange rate impact on sales growth

Slight positive impact from EUR partially offset by JPY

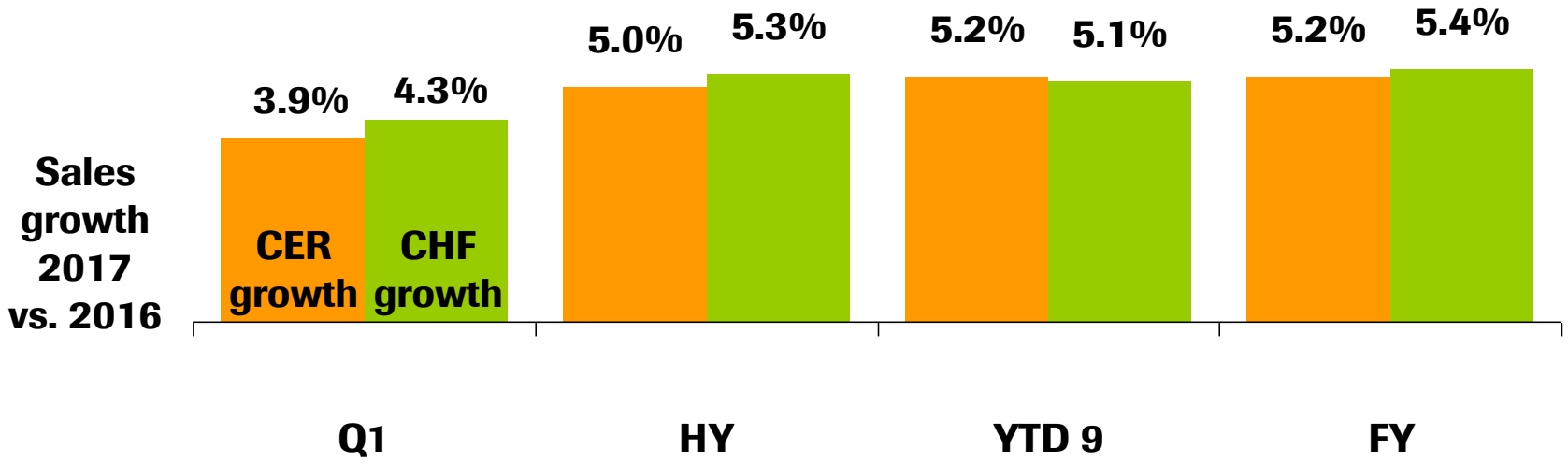


CER = Constant Exchange Rates (avg full year 2016)

Exchange rate impact on sales growth

FY 2017 positive impact of EUR, partially offset by JPY

Development of average exchange rates versus prior year period				
CHF / USD	+1.0%	+1.3%	+0.4%	0.0%
CHF / EUR	-2.4%	-1.8%	-0.1%	+1.8%
CHF / JPY	+2.6%	+0.8%	-2.5%	-3.0%
Difference in CHF / CER growth	+0.4%p	+0.3%p	-0.1%p	+0.2%p



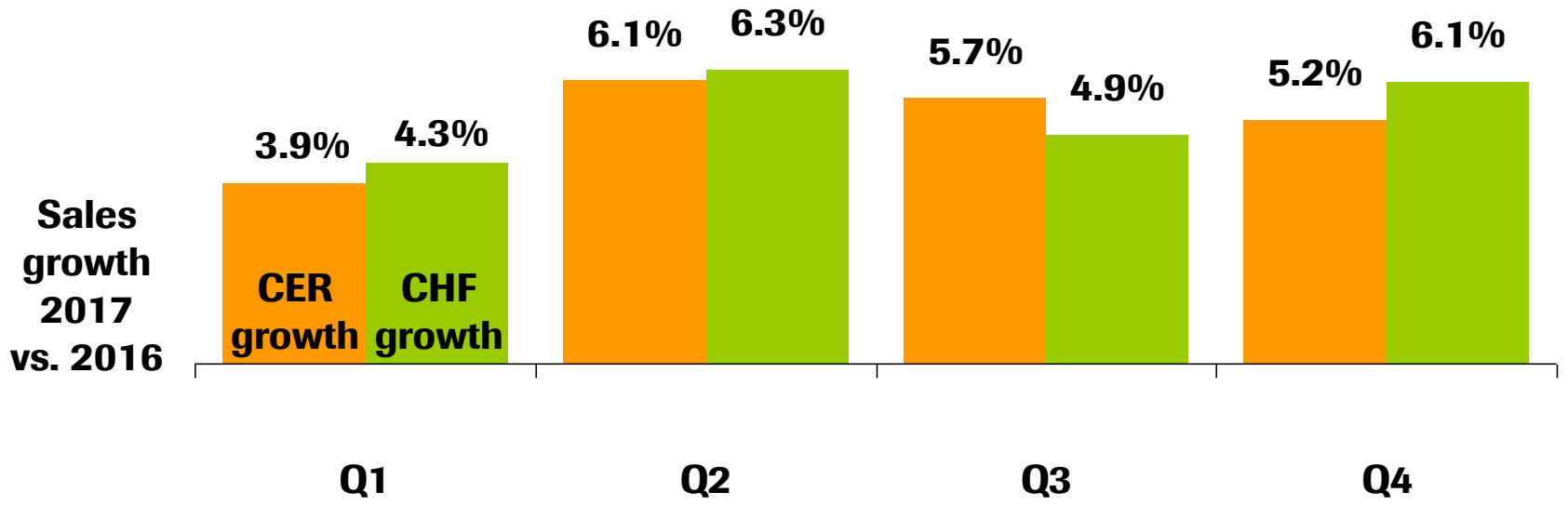
CER=Constant Exchange Rates

Exchange rate impact on sales growth

Q4 2017 positive impact of EUR, partially offset by USD and JPY

Development of average exchange rates versus prior year period

CHF / USD	+1.0%	+1.5%	-1.4%	-1.4%
CHF / EUR	-2.4%	-1.2%	+3.8%	+7.6%
CHF / JPY	+2.6%	-1.1%	-9.0%	-4.7%
Difference in CHF / CER growth	+0.4%p	+0.2%	-0.8%	+0.9%



CER=Constant Exchange Rates

Doing now what patients need next