
Roche

Roche

Q1 2017 sales

Basel, 27 April 2017

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2 legislative and regulatory developments and economic conditions;
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4 fluctuations in currency exchange rates and general financial market conditions;
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Group

Severin Schwan

Chief Executive Officer

Q1 2017 performance

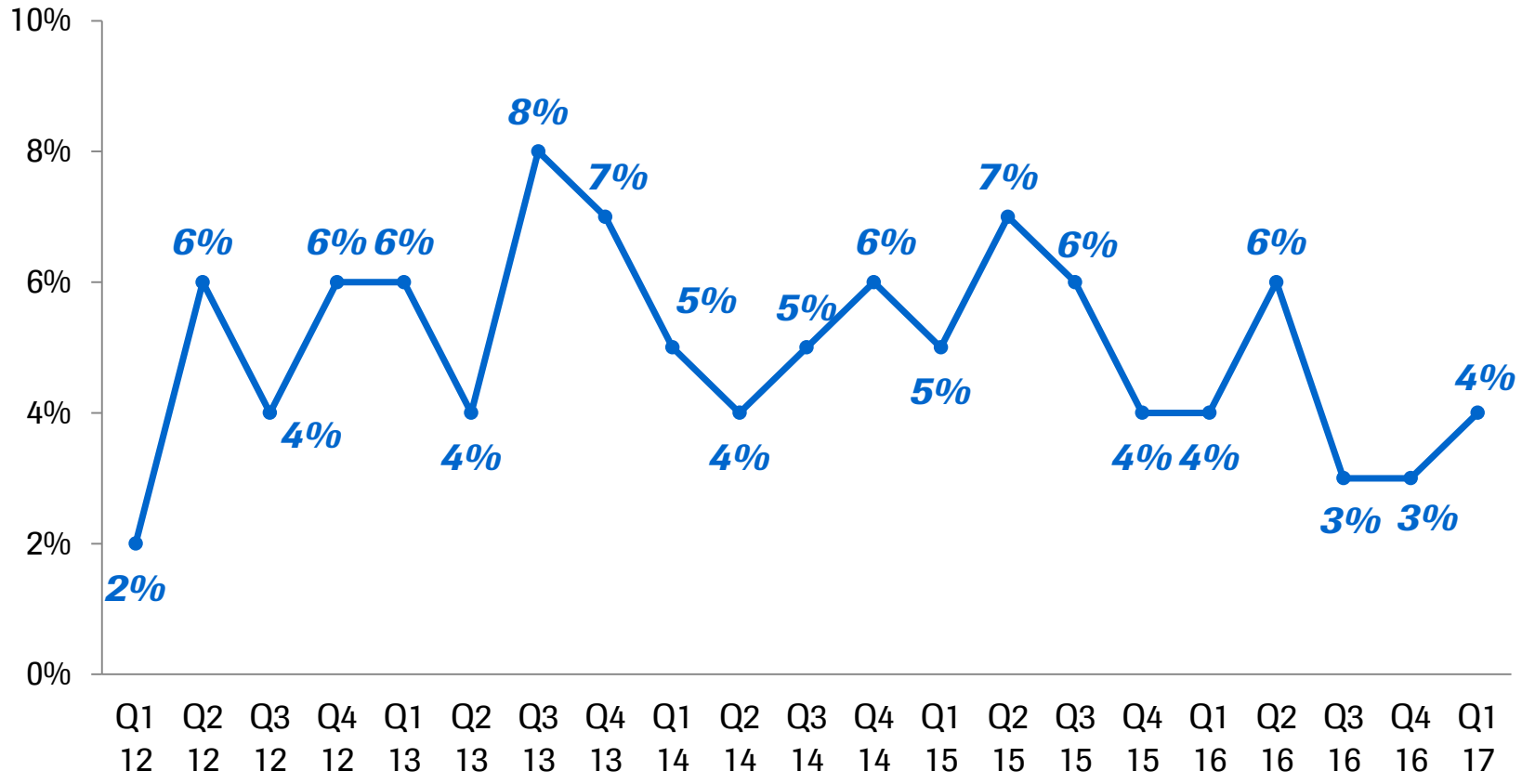
Outlook

Q1 2017: Strong sales growth in both divisions

	2017 CHFbn	2016 CHFbn	Change in % CHF	Change in % CER
Pharmaceuticals Division	**10.2**	9.8	**4**	**3**
Diagnostics Division	**2.8**	2.6	**6**	**6**
Roche Group	**12.9**	12.4	**4**	**4**

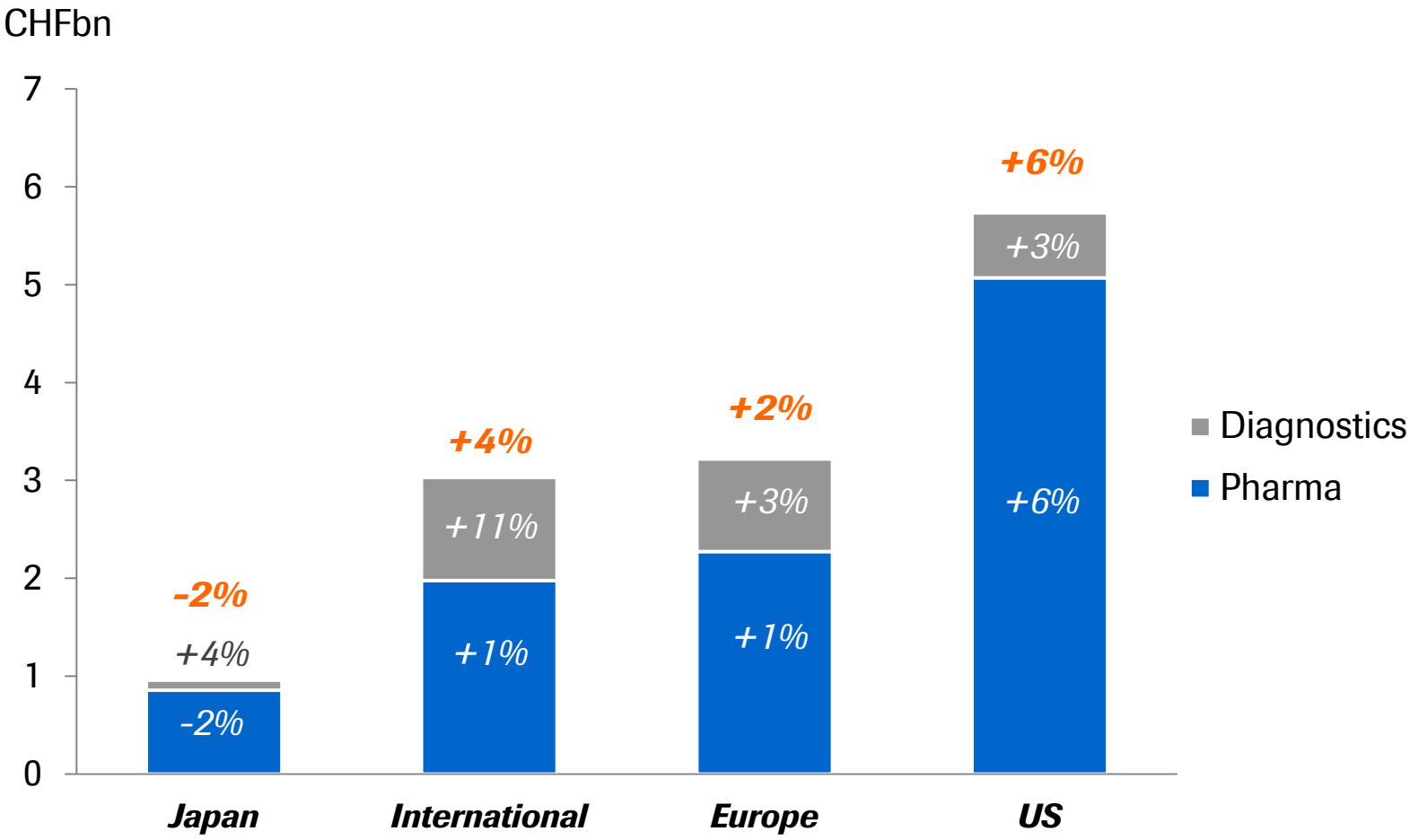
CER=Constant Exchange Rates

Q1 2017: Sales growth for the sixth consecutive year



All growth rates at Constant Exchange Rates (CER)

Q1 2017: Strong sales growth in US, International and Europe



All growth rates at Constant Exchange Rates (CER)

Roche significantly advancing patient care

Recognition for innovation 2013-present

15 *Breakthrough Therapy Designations*

Rank	Company	#
1	**Roche**	**15**
2	Novartis	11
3	BMS	10
3	Merck	9
4	AbbVie	7
4	Pfizer	7

Year	Molecule
2017	***Rituxan*** *(Pemphigus vulgaris)*
2016	***Actemra*** *(Giant cell arteritis)*
	Alecensa *(1L ALK+ NSCLC)*
	Ocrevus *(PPMS)*
	Venclexta *(AML)*
	Venclexta *+* ***Rituxan*** *(R/R CLL)*
2015	***Actemra*** *(Systemic sclerosis)*
	Tecentriq *(NSCLC)*
	Venclexta *(R/R CLL 17p del)*
	Emicizumab*/ACE 910 (Hemophilia A)*
2014	***Esbriet*** *(IPF)*
	Lucentis *(Diabetic retinopathy)*
	Tecentriq *(Bladder)*
2013	***Alecensa*** *(2L ALK+ NSCLC)*
	Gazyva *(1L CLL)*

Source: http://www.focr.org/breakthrough-therapies as of March 2017; PPMS=Primary Progressive Multiple Sclerosis; CLL=Chronic Lymphocytic Leukemia; NSCLC=Non-Small Cell Lung Cancer; IPF=Idiopathic Pulmonary Fibrosis

Q1 2017: Major launch activities started

Ocrevus (RMS and PPMS)	• First medicine in PPMS, first B-cell targeted in RMS • Indications granted w/o limitations* • No black box warning • No extra requirements for screening or monitoring
Lucentis (Diabetic Retinopathy[1])	• First in class
Tecentriq (1L bladder cancer[2])	• First in class
Diagnostics	• FDA approval of cobas e 801

* for example line of therapy, patient population etc., [1] DR independent of macular edema; [2] 1L cisplatin-ineligible

Q1 2017: Major read-outs securing future growth

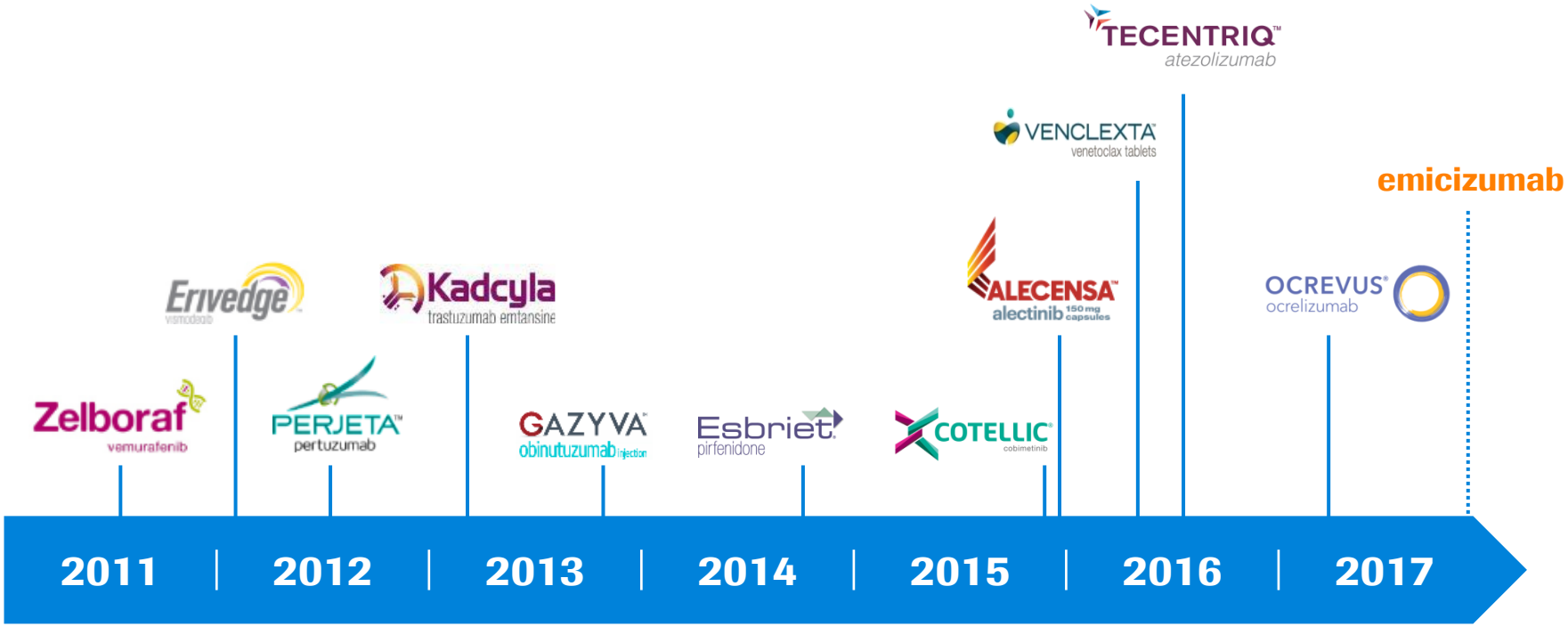
Perjeta (Early breast cancer)	• APHINITY: Best in class, reducing risk recurrence of invasive cancer or death
emicizumab (Hem. A inhibitors)	• HAVEN1 (Adults): Superiority vs Standard of Care • HAVEN2 (Pediatric): Positive interim result
Alecensa (ALK+ lung cancer)	• ALEX: Superiority in 1L vs Standard of Care • ALUR: Superiority in 2/3L vs Standard of Care
Rituxan (SC, Pemphigus vulgaris)	• SC: Positive ODAC vote (11:0) • Pemphigus vulgaris: BTD granted

SC=Subcutaneous; ODAC=Oncologic Drug Advisory Committee; BTD=Breakthrough Therapy Designation

Q1 2017 performance

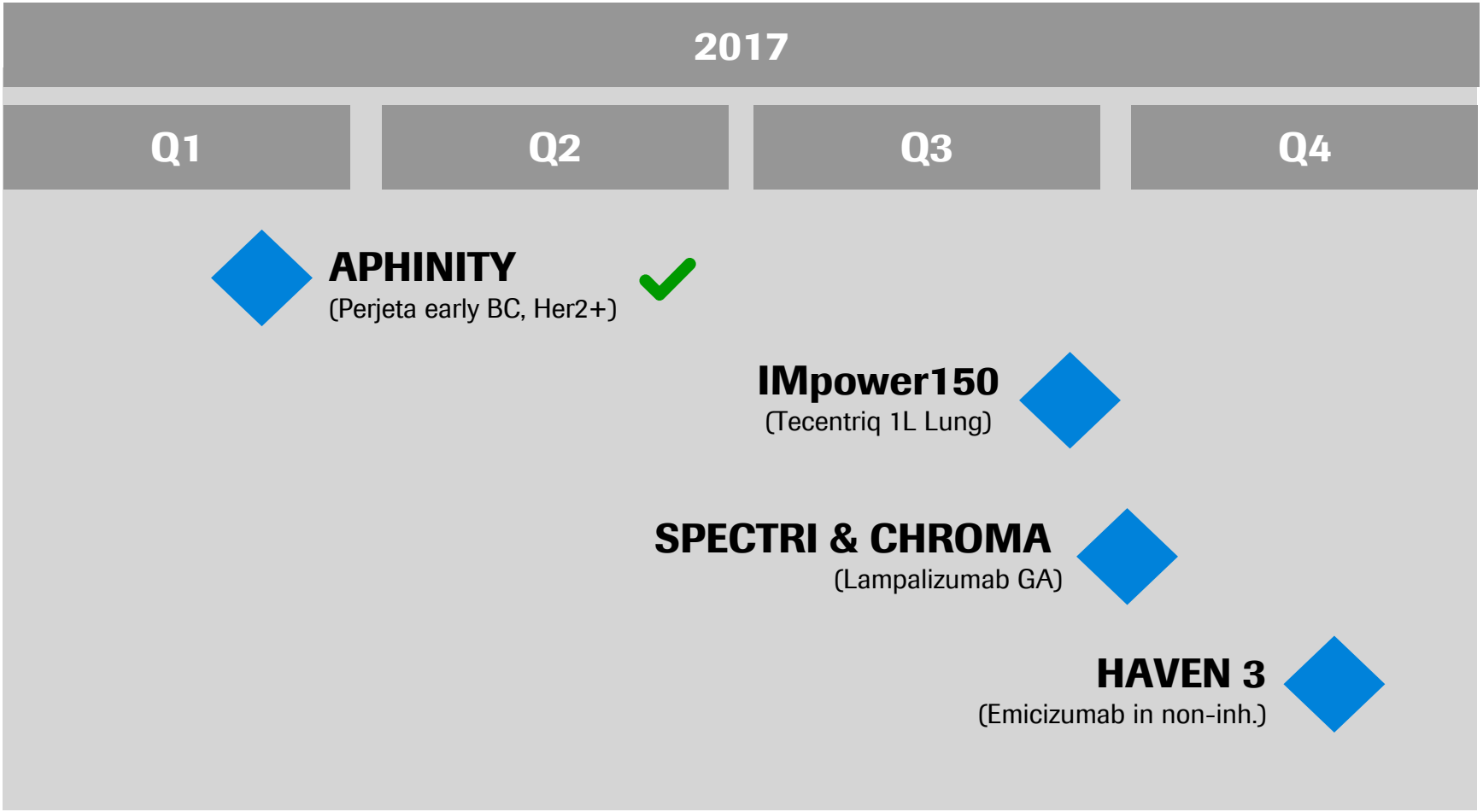
Outlook

Launch of new medicines at a record high



2017: Another important year for our pipeline

Key read-outs



Outcome studies are event-driven: timelines may change

2017 outlook

Group sales growth[1]	Low to mid-single digit
Core EPS growth[1]	Broadly in line with sales growth
Dividend outlook	Further increase dividend in Swiss francs

[1] At Constant Exchange Rates (CER)

Pharmaceuticals Division

Daniel O'Day

CEO Roche Pharmaceuticals

Q1 2017 sales

Innovation

Outlook

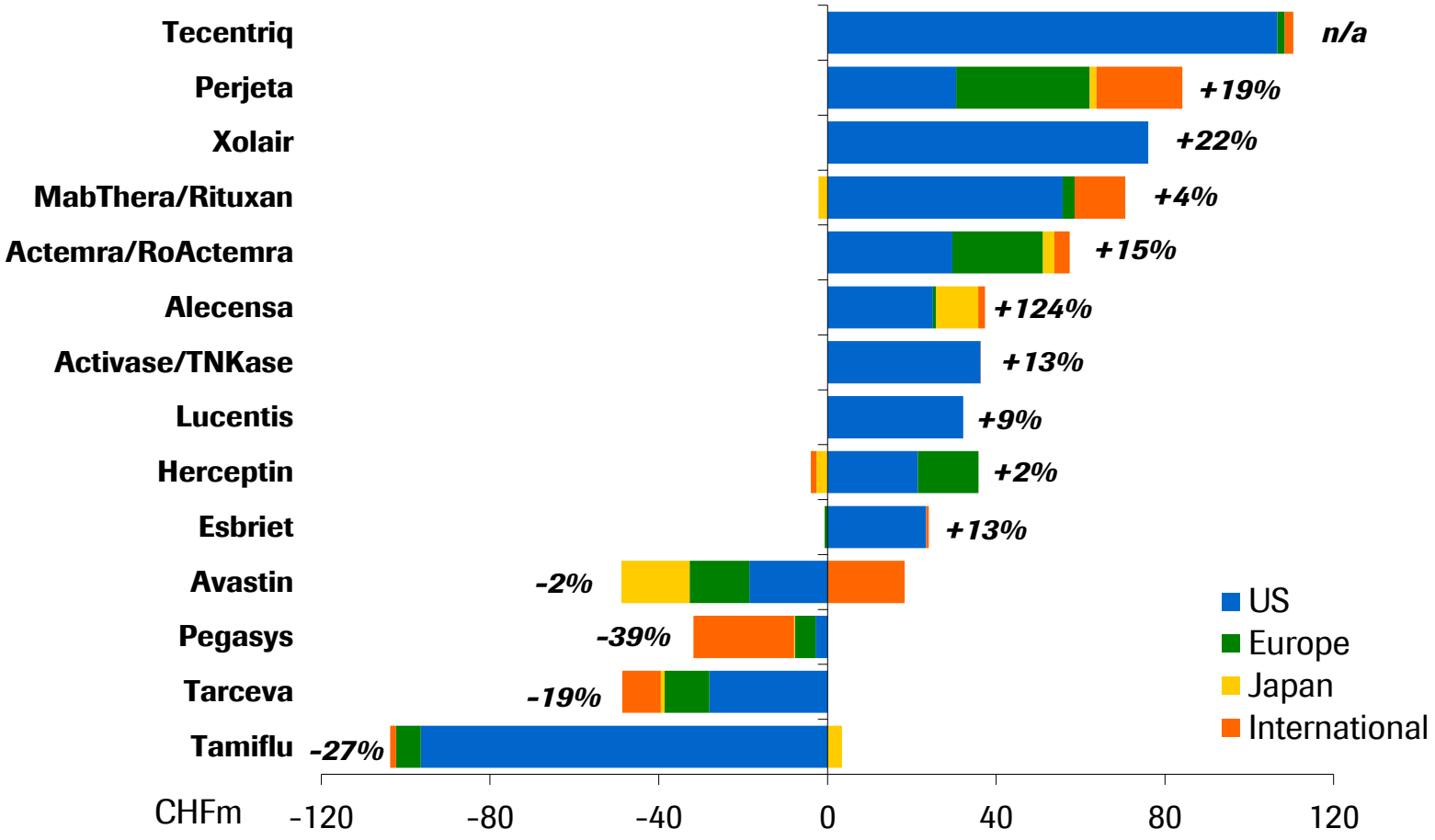
Q1 2017: Pharma sales

Strong growth in the US due to ongoing launches

	2017 CHFm	2016 CHFm	Change in % CHF	Change in % CER
Pharmaceuticals Division	**10,177**	**9,800**	**4**	**3**
United States	5,070	4,716	8	6
Europe	2,273	2,319	-2	1
Japan	856	853	0	-2
International	1,978	1,912	3	1

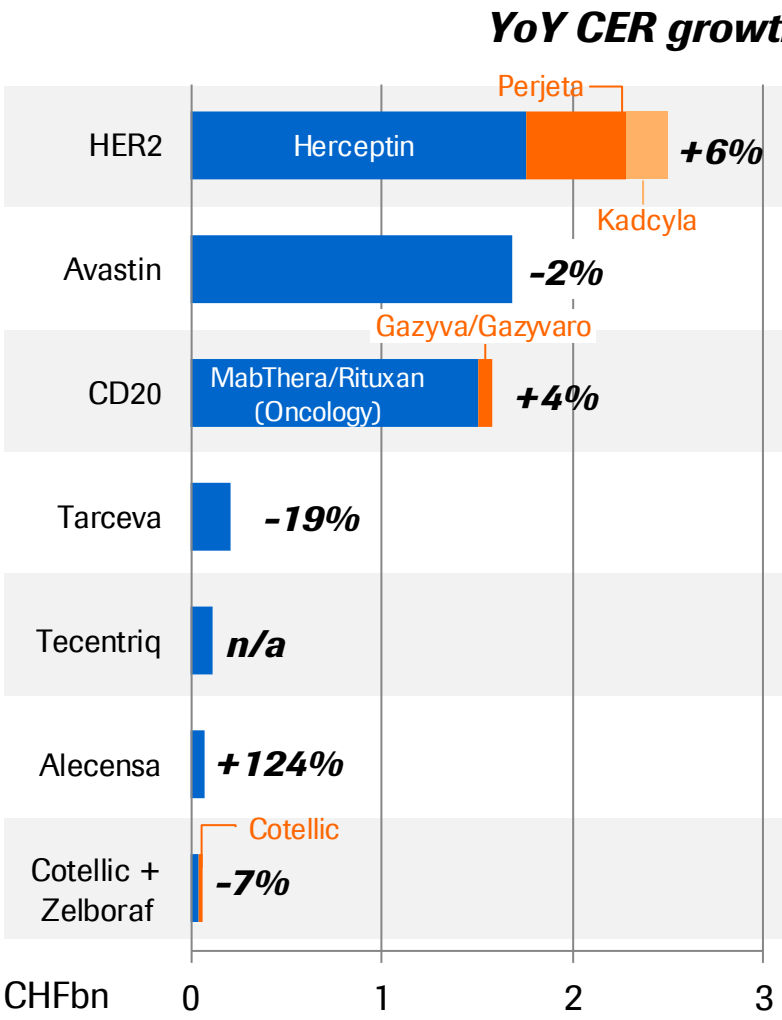
CER=Constant Exchange Rates

Q1 2017: Strong sales performance with increasing contribution from new launches



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

Q1 2017: Oncology +4% growth



- Perjeta: Strong sales growth in all regions
- Kadcyla: Strong sales growth in US, EU and International

- Growth impacted by competition and pricing in Japan

- Gazyva in R/R FL (iNHL) (GADOLIN) off to a good start
- Gazyva in 1L FL (iNHL) (GALLIUM) on NCCN guidelines

- Increased competition

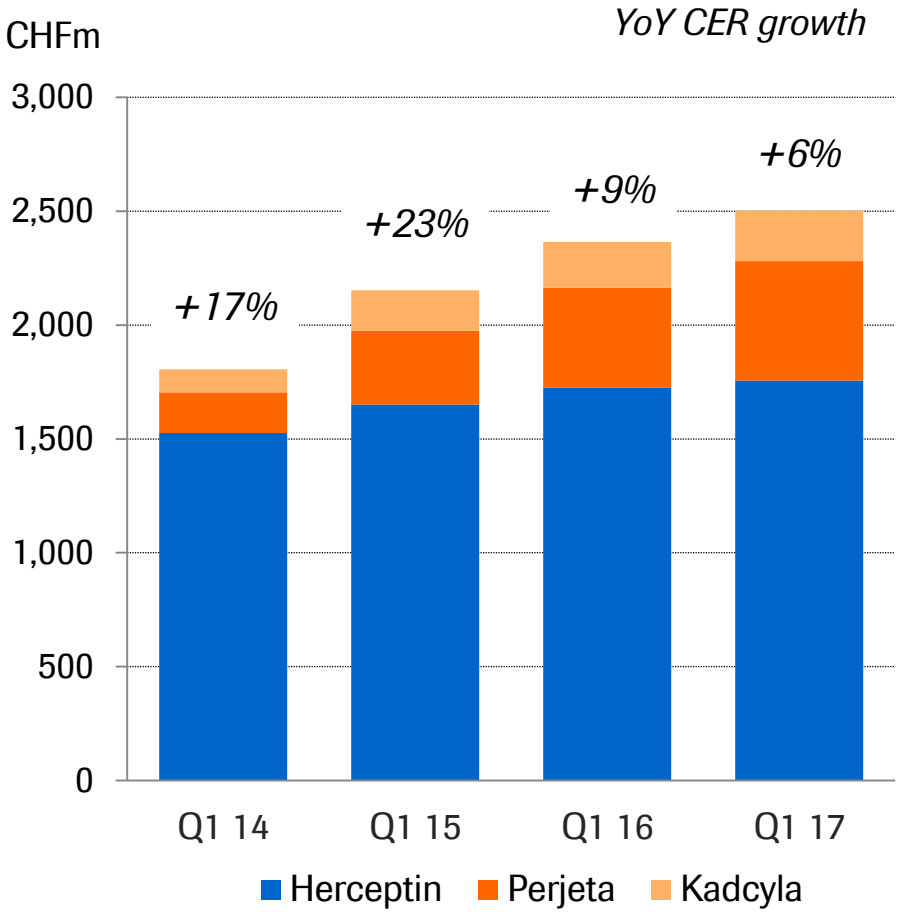
- US: 2L bladder gaining market share
- US: 1L cisplatin-ineligible bladder approved
- US: Gaining share in 2/3L lung (all-comers label)

- US: 2L market leadership achieved after 12 months
- US/EU: 1L positive ALEX data at ASCO

- Cotellic+Zelboraf stable market share in 1L and 2L

CER=Constant Exchange Rates
Q1 2017 Oncology sales: CHF 6.4bn; CER growth +4%

HER2 franchise: Growth driven by Perjeta



HER2 franchise Q1 2017

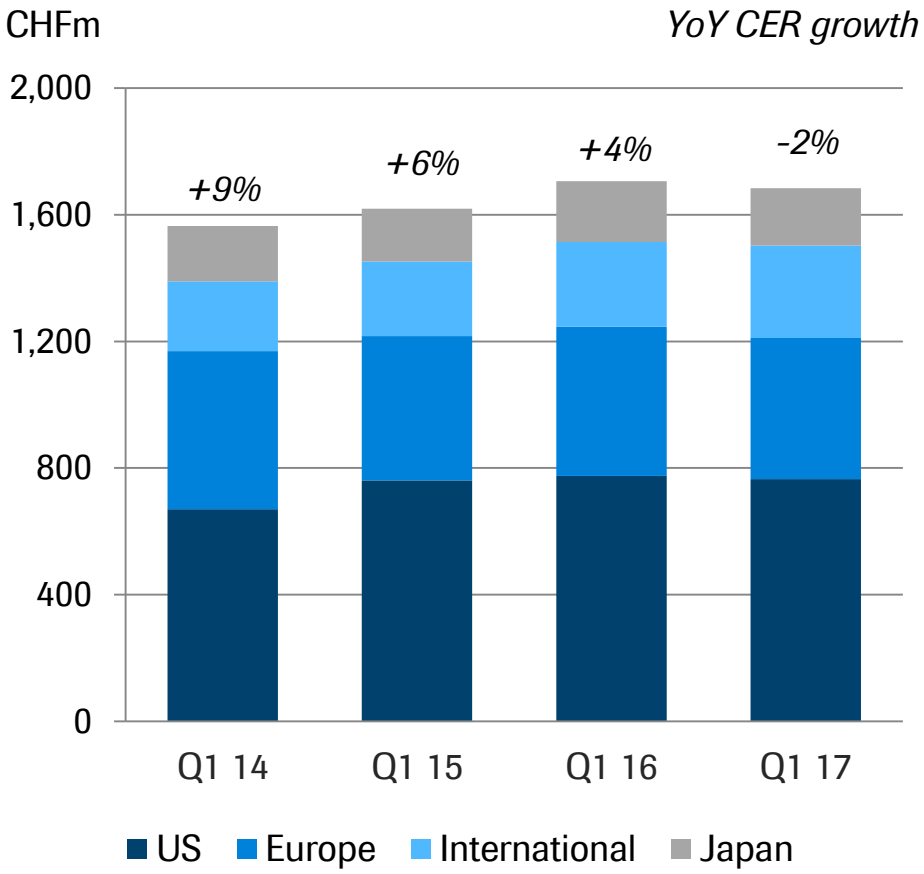
- Perjeta (+19%): Strong demand driven by all regions
- Herceptin (+2%): Volume growth in EU due to longer treatment duration
- Kadcyla (+11%): Growth in US, EU and International

Outlook 2017

- US/EU filing of APHINITY (adj. BC)
- Herceptin: Further SC conversion
- Perjeta: Further increasing penetration

CER=Constant Exchange Rates

Avastin: International growth partly offsets performance in developed markets



Avastin Q1 2017

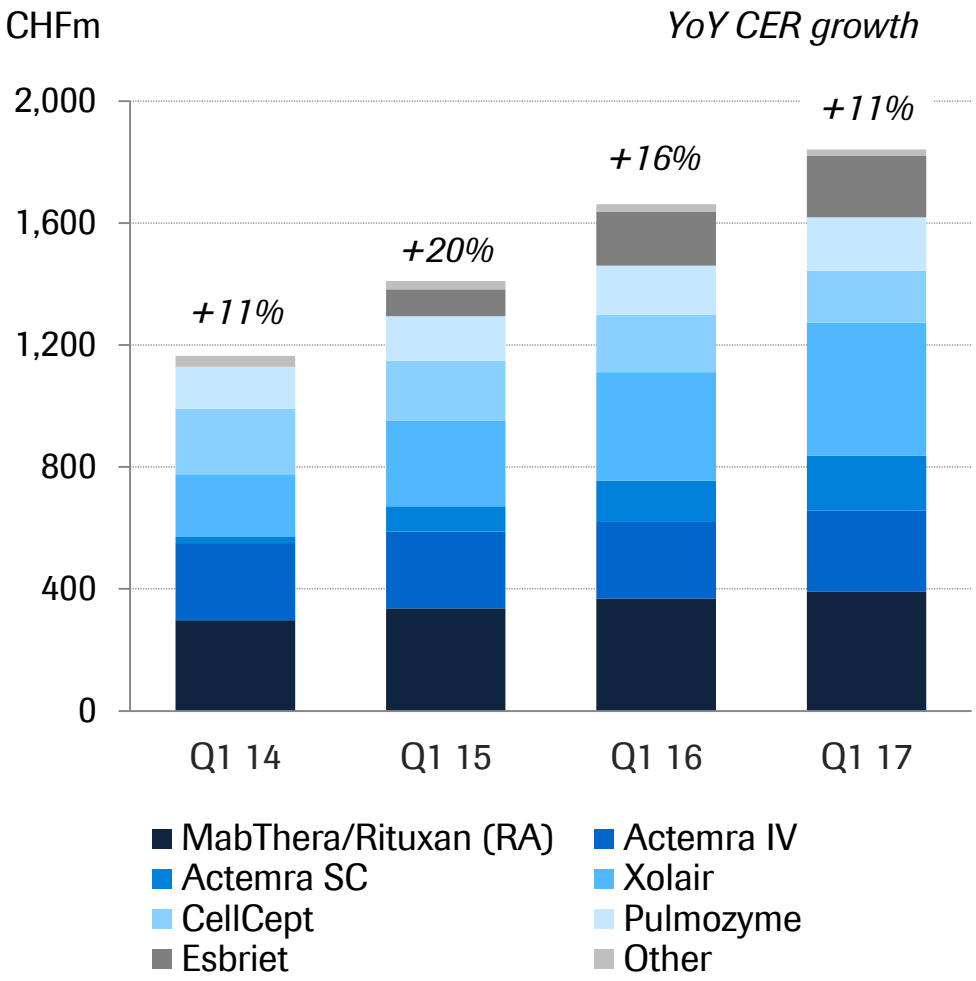
- US (-2%): Competition in lung from cancer immunotherapies
- Japan (-8%): Base effect from mandatory price cut in Japan
- International (+7%): Growth driven by launches in China

Outlook 2017

- Continued uptake in ovarian cancer
- Ph III (IMpower150) results in 1L lung for Tecentriq+Avastin+chemo expected in Q3/4

CER=Constant Exchange Rates

Immunology franchise growing above CHF 7bn annualised; further launches in 2017



Immunology Q1 2017

Xolair (+22%)

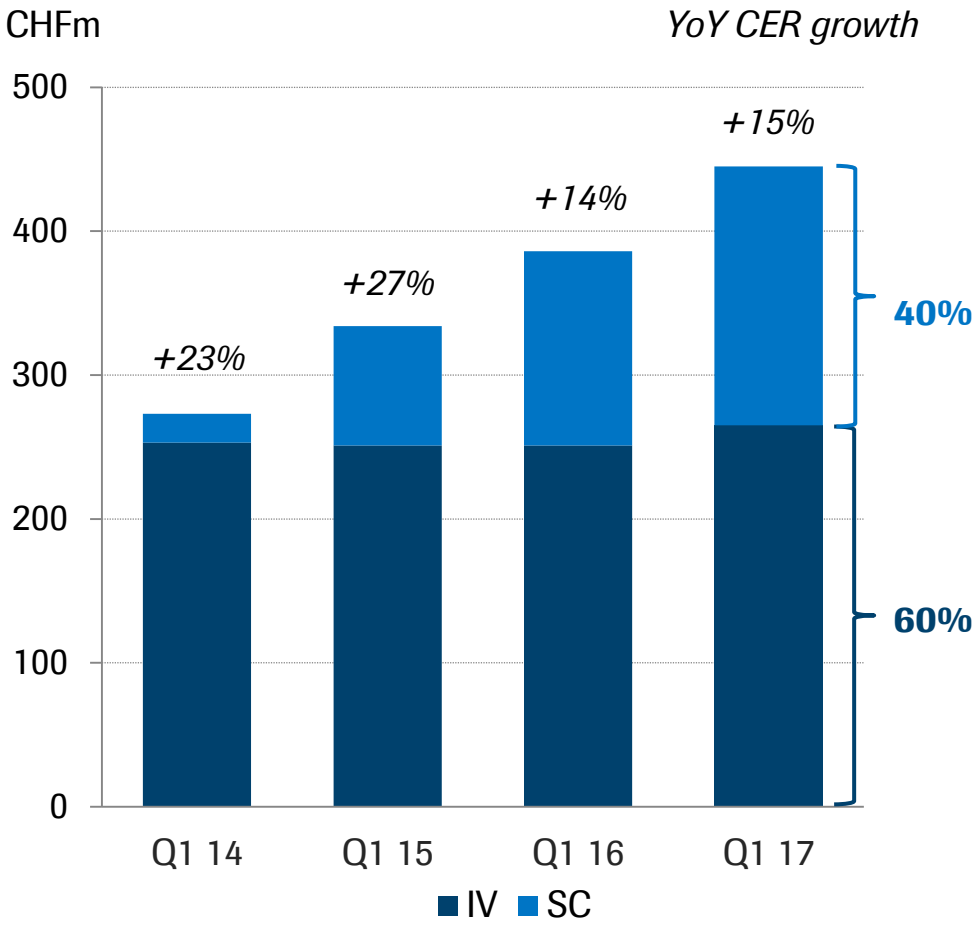
- Allergic asthma & chronic idiopathic urticaria driving growth
- Asthma: US pediatrics launch on-going; only biologic approved for children

MabThera/Rituxan (+7%)

- Continues to grow in rheumatoid arthritis and vasculitis (GPA and MPA)
- BTD for pemphigus vulgaris

CER=Constant Exchange Rates; GPA=granulomatosis with polyangiitis; MPA=microscopic polyangiitis; BTD=breakthrough therapy designation

Actemra/RoActemra: Strong growth driven by SC formulation and 1L monotherapy



PDUFA date
Giant cell arteritis
May 22

Actemra Q1 2017

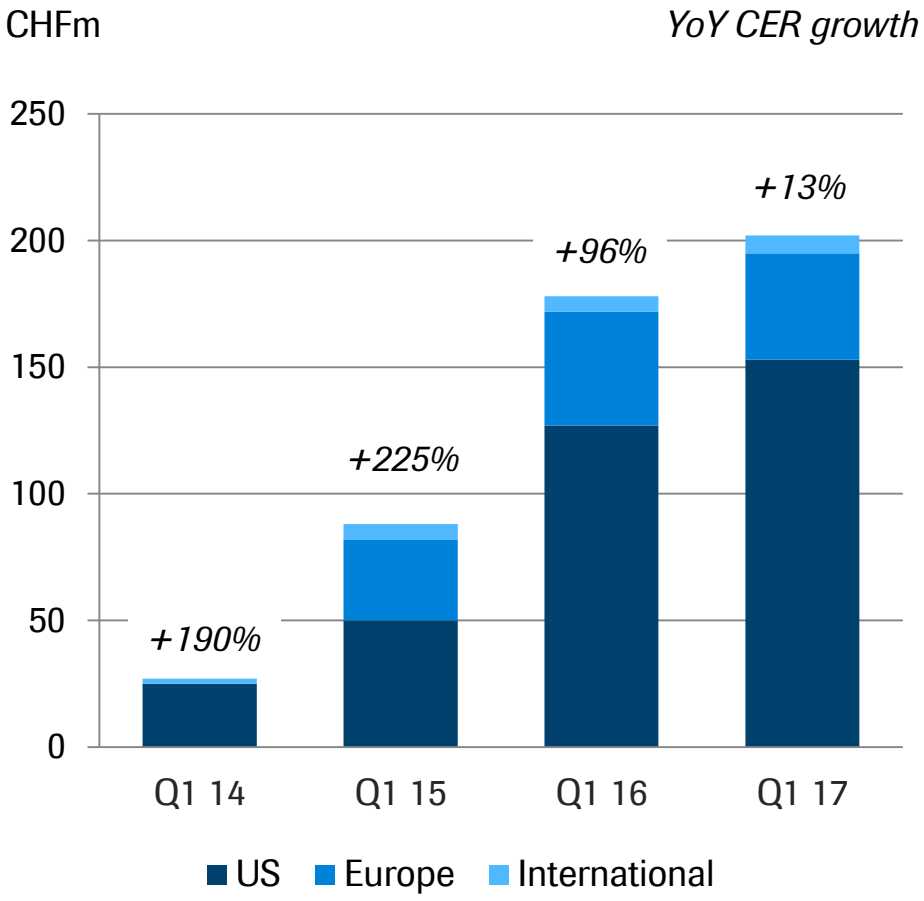
- US (+21%): Increasing SC uptake
- EU (+17%): Increasing monotherapy market share, also in 1L

Outlook 2017

- Increasing 1L monotherapy leadership
- US/EU approval in giant cell arteritis (2nd BTD and priority review for Actemra)

CER=Constant Exchange Rates; IV=intravenous; SC=subcutaneous; BTD=breakthrough therapy designation

Esbriet: Continuing to target mild to moderate patient populations



Esbriet Q1 2017

- Market leadership in the US and EU5
- US (+19%): Growth driven by penetration into moderate and severe patient segments
- EU (-2%): Overall market leadership in EU5 markets, increased competition

Outlook 2017

- Increased investments in patient education regarding benefits of earlier treatment

CER=Constant Exchange Rates

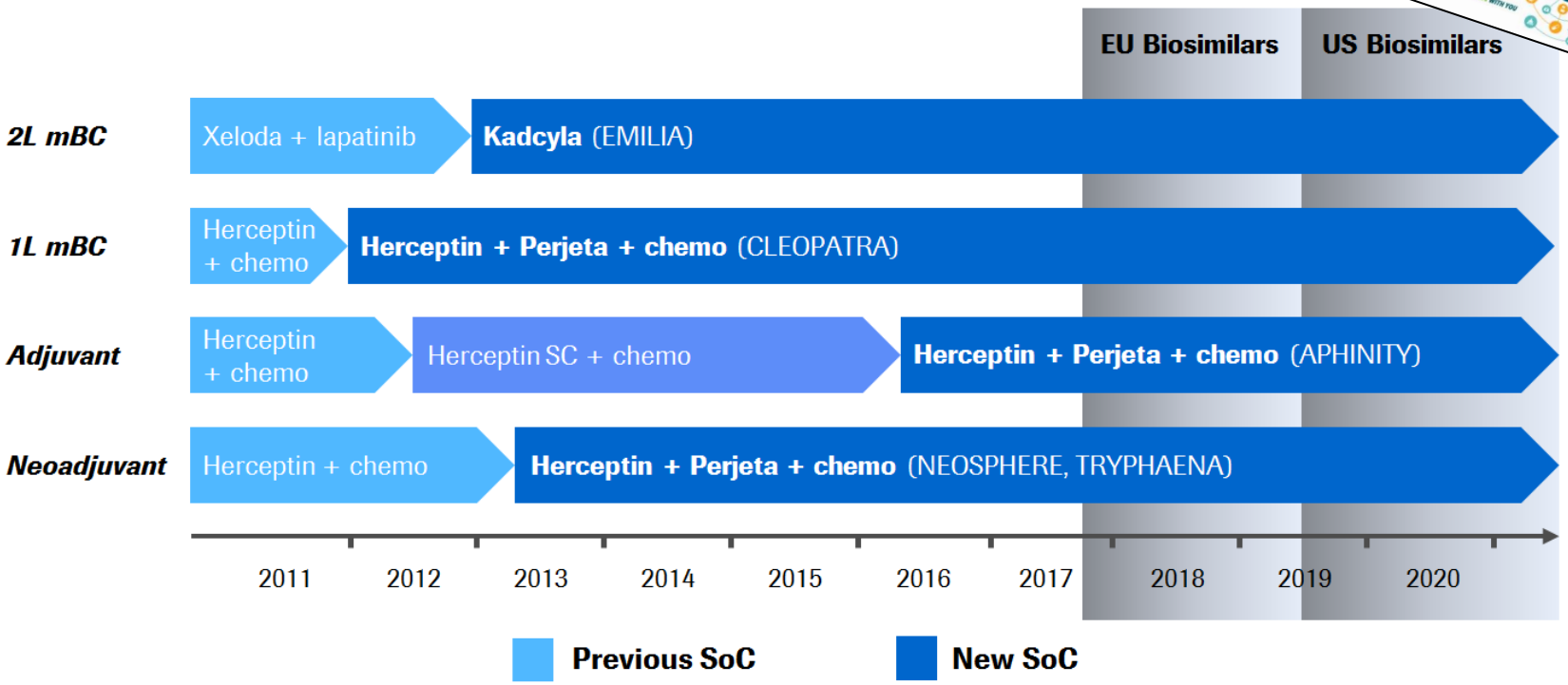
Q1 2017 sales

Innovation

Outlook

Herceptin+Perjeta: Positive results in adjuvant BC

Keeping the HER2 franchise growing



- Phase III study (APHINITY) met primary endpoint (improvement in invasive disease-free survival)
- Results to be presented at ASCO on June 5th and to be filed in the US/EU
- SC co-formulation of Herceptin + Perjeta in development

BC=breast cancer; mBC=metastatic breast cancer; L=line of treatment; SoC=standard of care; SC=subcutaneous

Alecensa: Positive results in 1L ALK+ NSCLC

ALKi with proven strong activity in the brain

Phase III ALEX

- Second Phase III head-to-head study showed Alecensa was superior to crizotinib in 1L ALK+ lung cancer
- Patients receiving Alecensa lived significantly longer without their disease progressing (PFS)
- Safety profile was consistent with previous studies
- Results to be presented at ASCO

1L lung

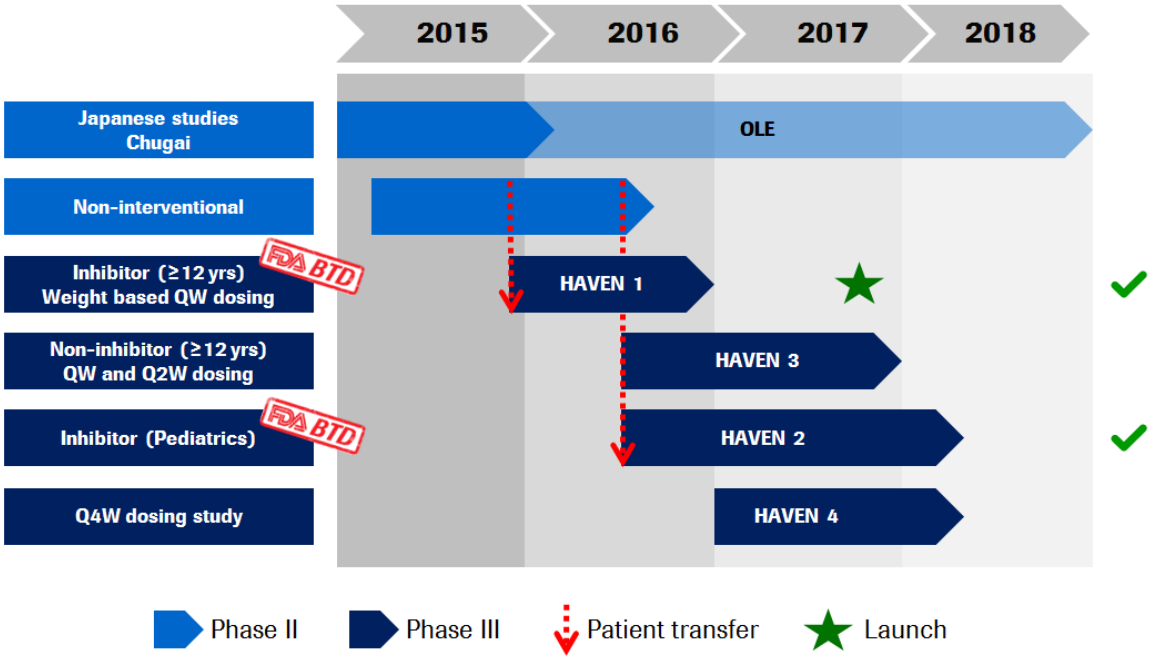
- Phase III data (ALEX) to be filed in the US/EU
- Breakthrough therapy designation
- Japanese market share >60%

2L lung

- Positive Phase III study ALUR supports use in chemo/crizotinib failed patients
- EU approval achieved in Q1
- US market share of 50% after 12 months

Alecensa in collaboration with Chugai; NSCLC=non-small cell lung cancer; Xalkori® (crizotinib); PFS=progression free survival; BTD=breakthrough therapy designation

Emicizumab: Positive results in adult & pediatric inhibitor patients

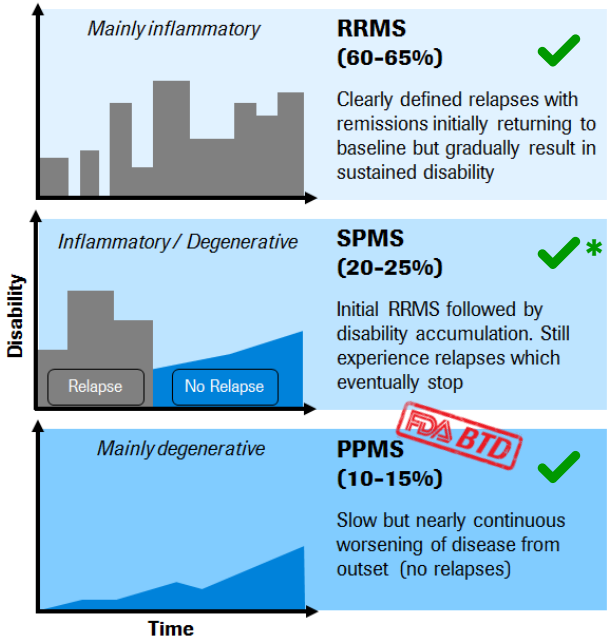


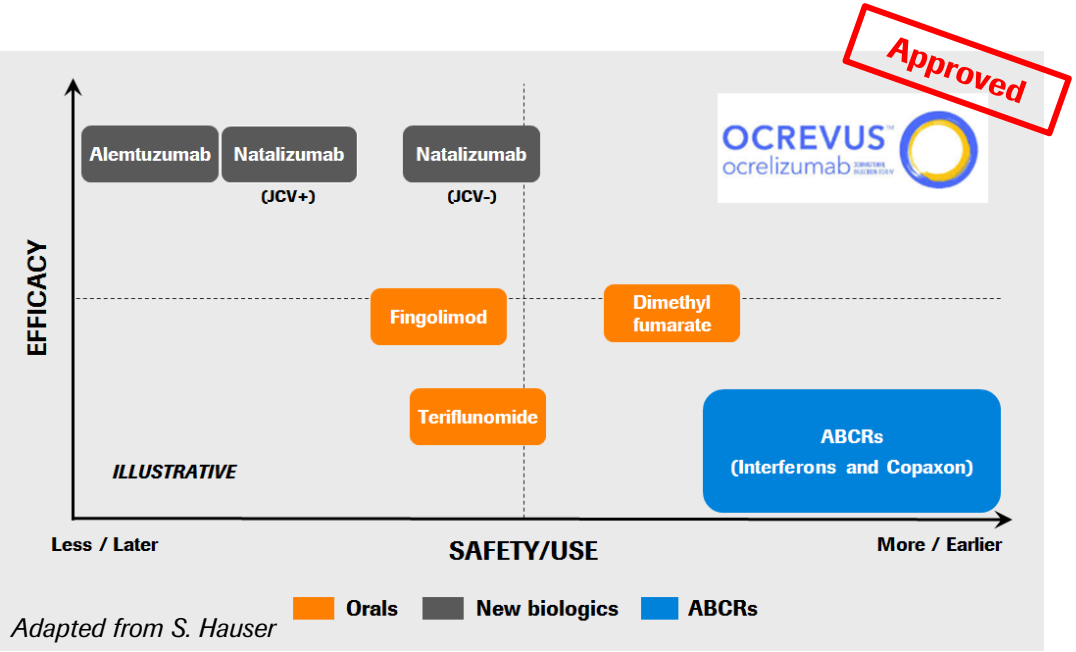
- Positive phase III results in inhibitor patients ≥12 years (HAVEN 1) to be presented at ISTH
- Positive phase III interim results in inhibitor pediatrics (HAVEN 2) to be presented at ISTH
- Global filing based on HAVEN1 and HAVEN2 interim results and launch preparations on track

Emicizumab (ACE910) in collaboration with Chugai; QW=weekly dosing; Q2W=dosing every 2 weeks; Q4W=dosing every 4 weeks; OLE=open label extension; BTD=breakthrough therapy designation

Ocrevus approved in the US

First treatment for both RMS and PPMS





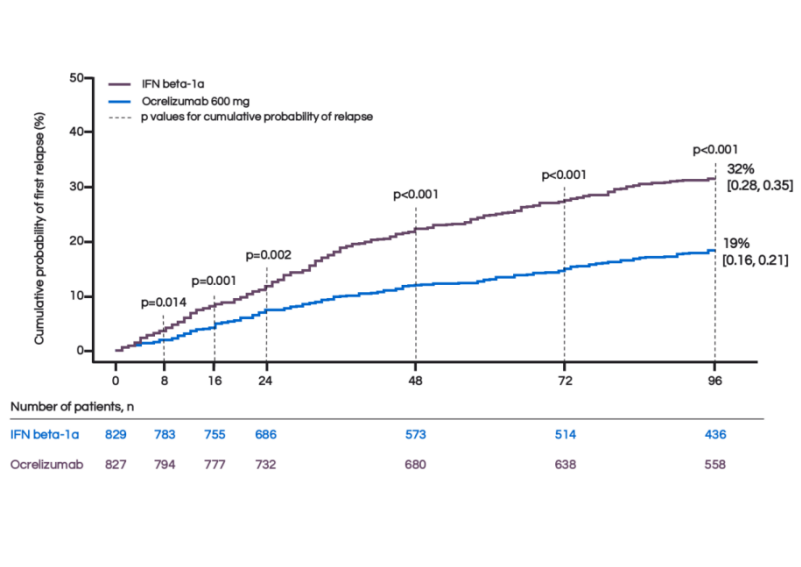
- Broad label includes RMS (RRMS, relapsing SPMS) and PPMS without any limitations
- No black box warning, no additional screening or monitoring

RMS=relapsing forms of multiple sclerosis (MS) including patients with RRMS and SPMS with superimposed relapses; RRMS= relapsing-remitting MS; SPMS=secondary progressive MS; PPMS=primary progressive MS; Adapted from Lublin 1996, Arnold 2004; *=relapsing SPMS included in the label

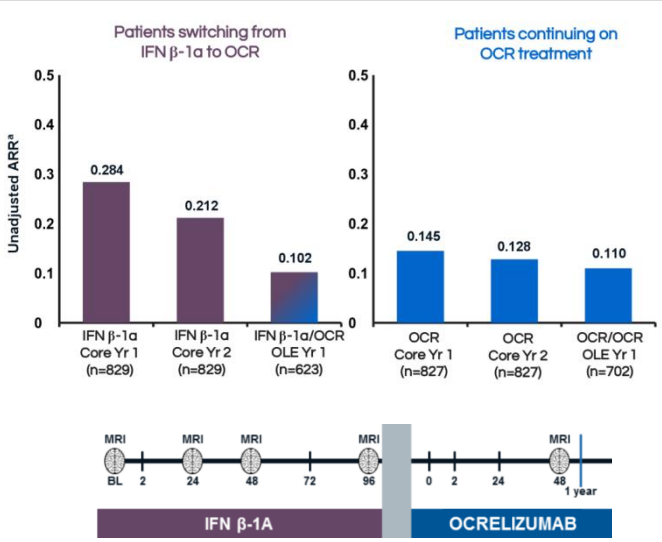
Ocrevus: New data presented at AAN

Rapid and sustained strong disease control

OPERA I & II (RMS)
Onset of disease control



OPERA I & II OLE (RMS)
Switching from IFN β-1a to Ocrevus



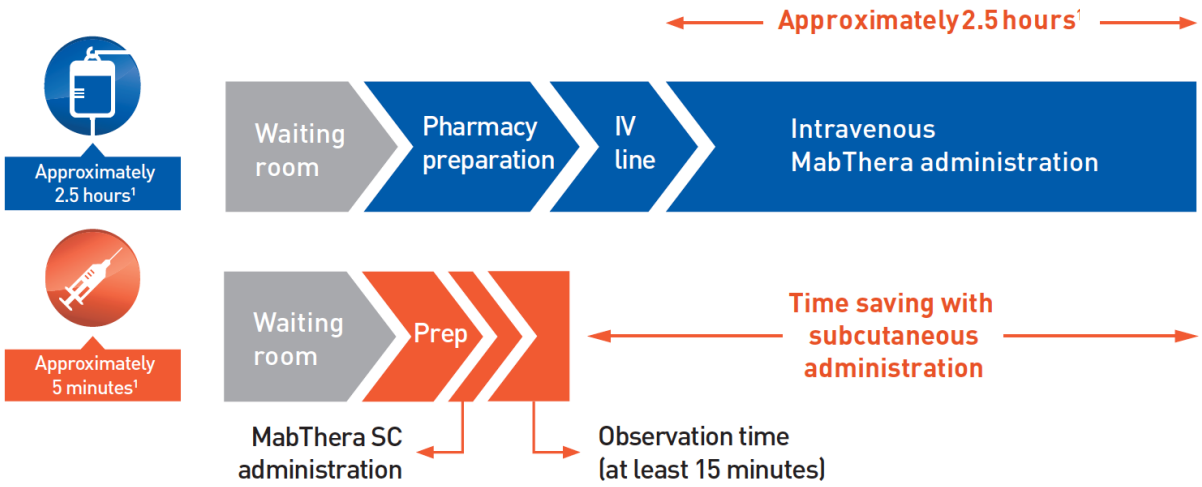
- Findings support early treatment with Ocrevus in RMS due to rapid onset of disease control after 8 weeks
- Strong sustained benefit of Ocrevus in RMS after three years with no new safety findings
- Findings support switching from Rebif® (interferon beta-1a) to Ocrevus in RMS

IFN β-1a=interferon beta-1a; OLE=open-label extension; Naismith RT. *et al*, presented at AAN 2017; Hauser SL. *et al*, presented at AAN 2017

MabThera/Rituxan SC in hematologic cancers

FDA advisory committee recommends approval

PDUFA date June 26

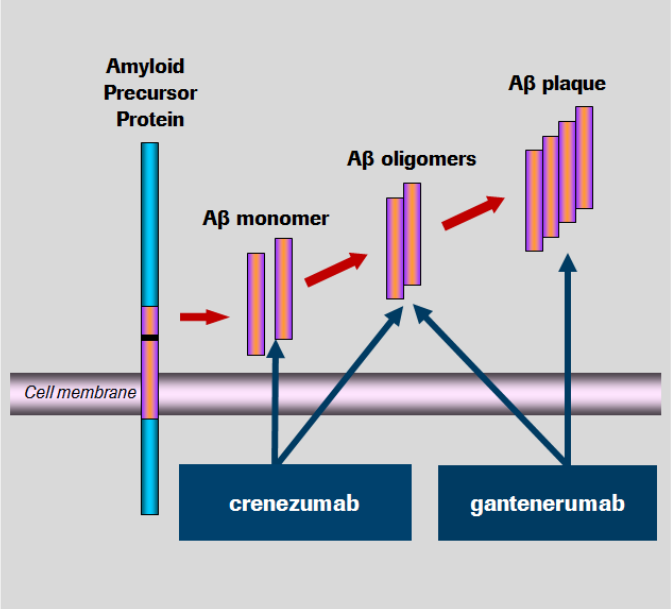


- ODAC voted unanimously (11:0) that the benefit-risk of rituximab/hyaluronidase for SC injection was favorable for the treatment of certain blood cancers
- Approved in the EU in NHL and CLL
- Encouraging initial uptake in the EU markets, comparable to Herceptin SC

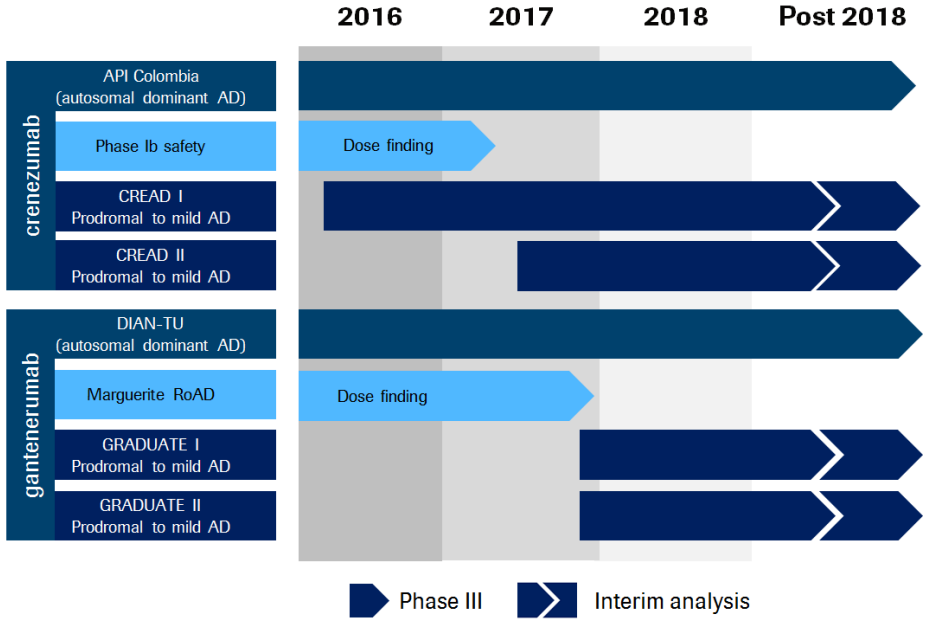
MabThera/Rituxan SC partnered with Halozyme; SC=subcutaneous; ODAC=Oncologic Drug Advisory Committee of the FDA; NHL=non-hodgkin's lymphoma; CLL=chronic lymphoid leukemia

Crenezumab and gantenerumab in Alzheimer's
Phase III programs starting

Amyloid pathway and targets



AD development plan



- Second Phase III trial (CREAD II) for crenezumab started
- Phase III development program for gantenerumab to start in 2017

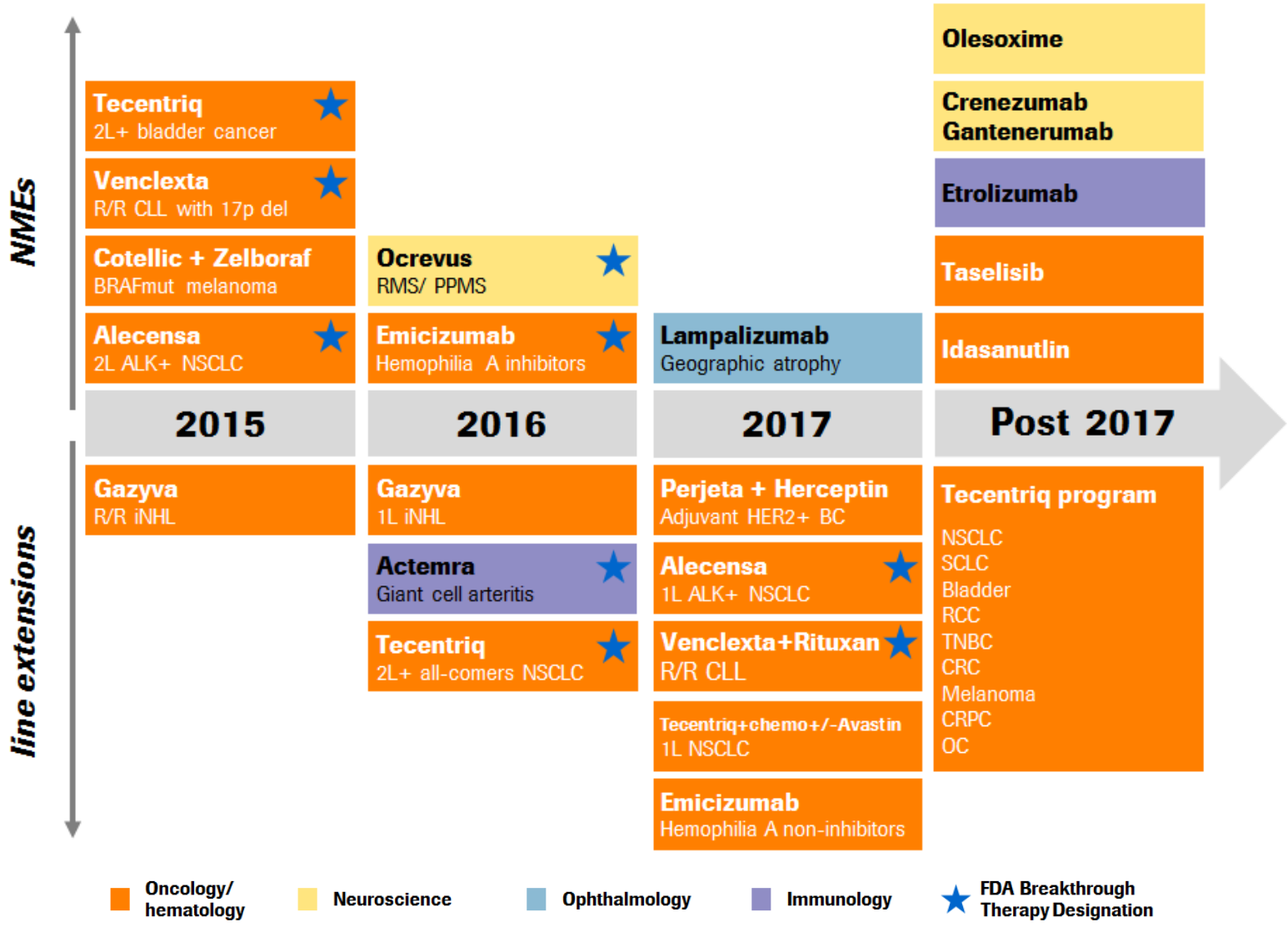
AD=Alzheimer`s disease; NME=new molecular entity

Q1 2017 sales

Innovation

Outlook

2017 onwards: Key data read-outs

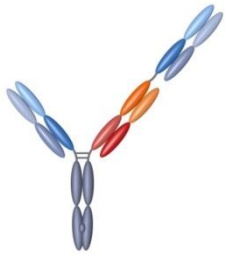


Outcome studies are event-driven: timelines may change

ASCO 2017: Major oral presentations

Tumor type	Trials
Breast	• Herceptin + Perjeta: Ph III (APHINITY) in adjuvant HER2+ BC
Lung	• Alecensa: Ph III (ALEX) in 1L ALK+ NSCLC • Tecentriq: Ph III (OAK) in 2L NSCLC
Colorectal	• aCEA/CD3 TCB +/- Tecentriq: Ph I in 3L CRC
Solid tumors	• Tecentriq + IDOi: Ph I
Renal	• Tecentriq + Avastin: Update Ph II (IMmotion150) in 1L RCC

Novel mode of action:



aCEA/CD3 TCB

Simultaneous binding to tumor and T cells results in:

- T cell engagement, activation and killing of tumor cells by delivery of cytotoxic granules
- T-cell engagement independent of specificity and activation status

IDOi in collaboration with NewLink Genetics; Alecensa in collaboration with Chugai

2017: Key late-stage news flow

	Compound	Indication	Milestone	
Regulatory	**Alecensa**	2L ALK+ NSCLC	EU approval	✓
	Ocrevus	RMS / PPMS	US/EU launch	
	Tecentriq	1L Bladder cancer cis-ineligible	US approval	✓
	Tecentriq	2/3L NSCLC and 2L Bladder cancer	EU approval	
	Gazyva	1L FL (iNHL)	US/EU filing	
	Actemra	Giant cell arteritis	US/EU approval	
	emicizumab	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 and CHROMA	
	emicizumab	Hemophilia A non-inhibitors	Ph III HAVEN3	

Additional Q1 2017 news flow:

- Lucentis: Approval in diabetic retinopathy
- MabThera/Rituxan SC in blood cancers: Positive FDA advisory committee vote (11:0)
- Emicizumab: Interim results in pediatric inhibitors (HAVEN2)

* Outcome studies are event-driven: Timelines may change

Diagnostics Division

Roland Diggelmann

CEO Roche Diagnostics

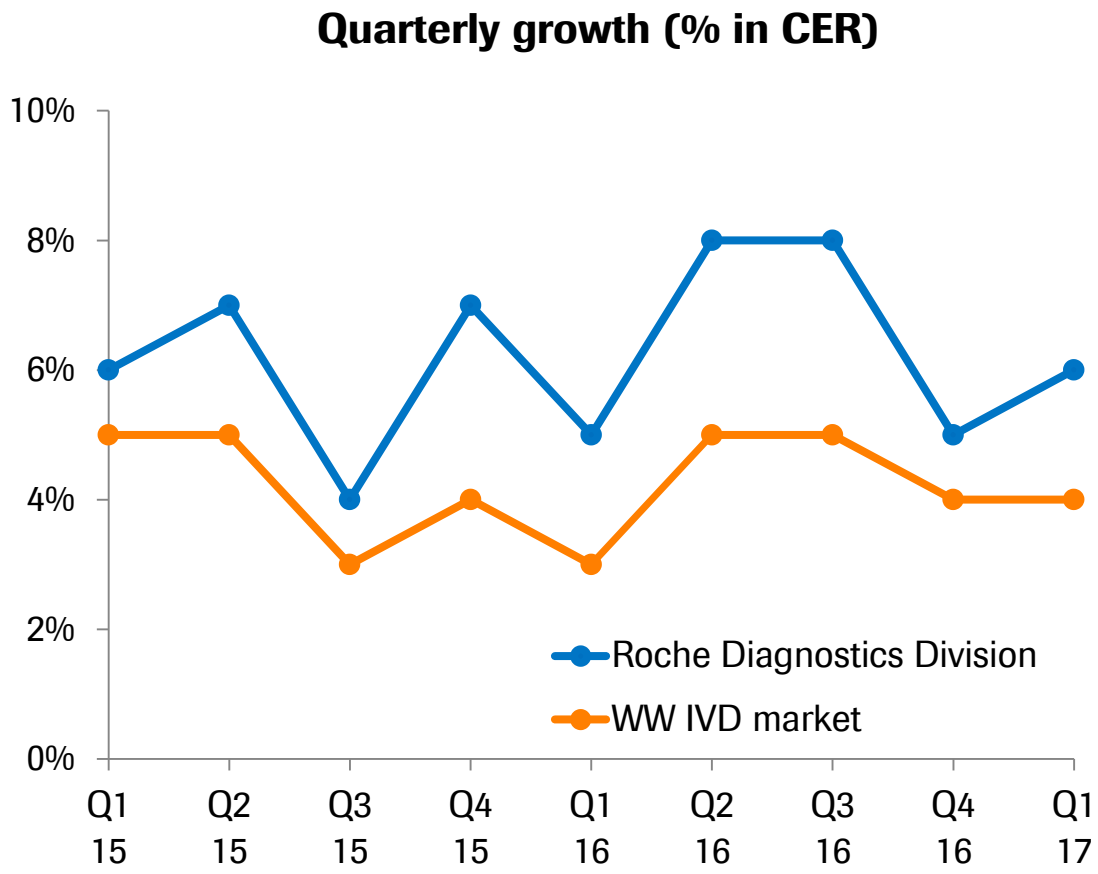
Q1 2017: Diagnostics sales growth driven by Centralised and Point of Care and Tissue Diagnostics

	2017 CHFm	2016 CHFm	Change in % CHF	Change in % CER
Diagnostics Division	**2,765**	**2,614**	**6**	**6**
Centralised and Point of Care Solutions	1,641	1,519	8	9
Diabetes Care	447	443	1	1
Molecular Diagnostics	441	446	-1	-2
Tissue Diagnostics	236	206	15	15

CER=Constant Exchange Rates
Underlying growth of Molecular Diagnostics excluding sequencing business: 0%

Roche continuously outgrowing the market

Increasing market leadership

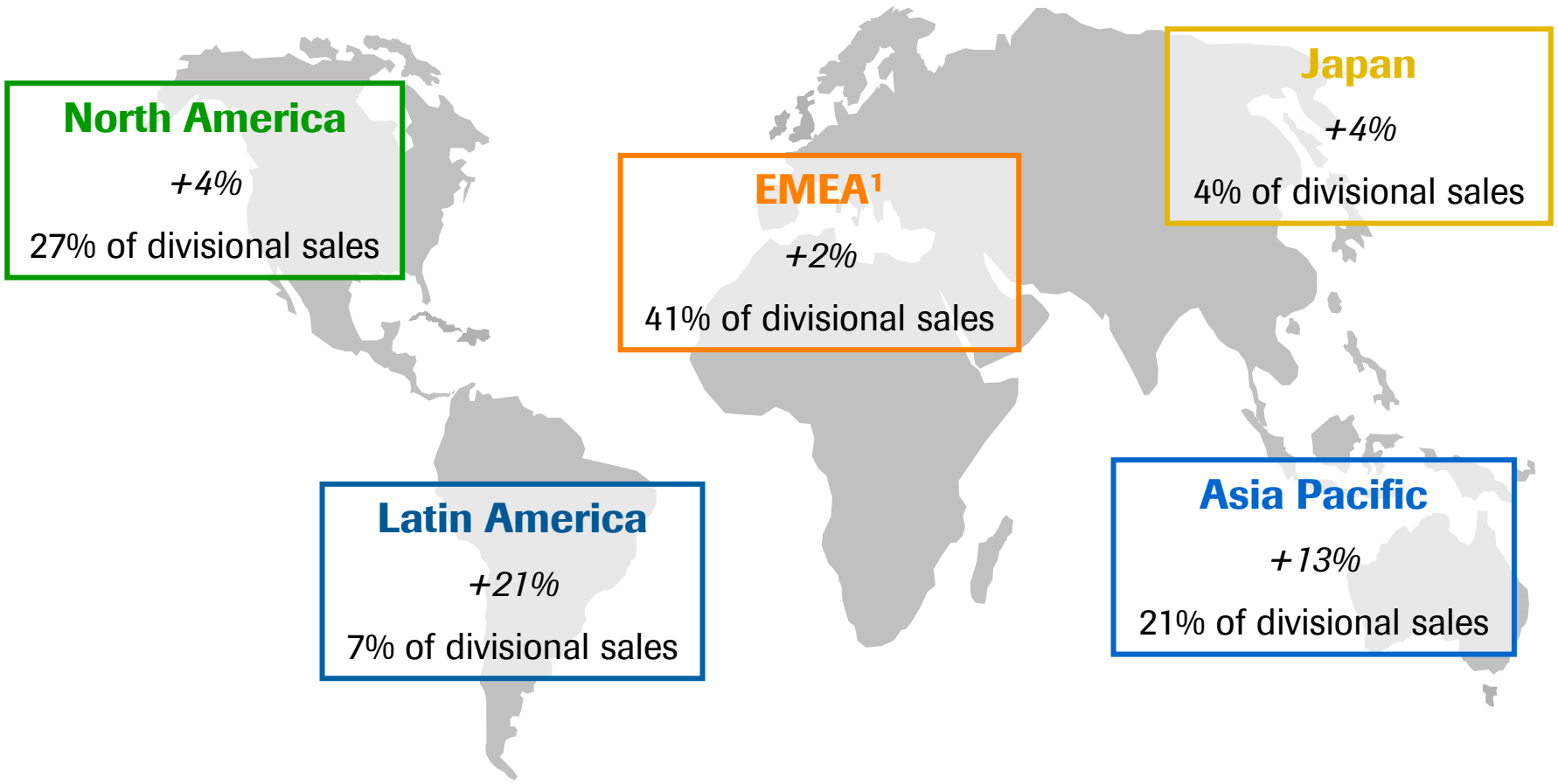


- Strong commercial presence
- Broadest test menu

Source: 3rd party IVD consultancy; Q1 2017 market growth is an estimate

Q1 2017: Diagnostics regional sales

Growth driven by all regions

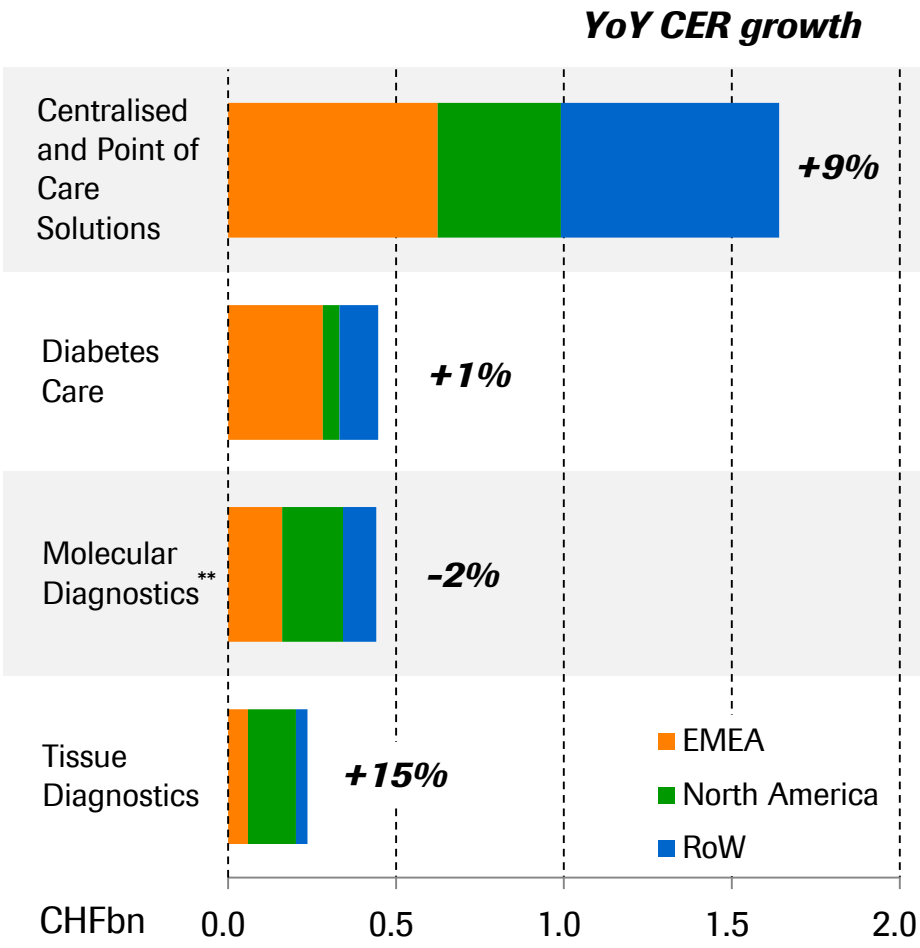


+18% growth in E7 countries[2]

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

Q1 2017: Diagnostics Division highlights

Growth driven by integrated laboratory solutions



- Driven by immunodiagnostics (+13%), clinical chemistry (3%) and PoC* (+4%)
- Driven by blood glucose monitoring (+2%)
- Virology (-6%) and blood screening (-4%)
- Advanced staining portfolio (+11%); primary staining (+14%) and companion diagnostics (+40%)

* PoC =Point of Care; ** Underlying growth of Molecular Diagnostics excluding sequencing business: 0%
CER=Constant Exchange Rates; EMEA=Europe, Middle East and Africa

Further expanding the industry's broadest menu

FDA approval of cobas e 801

New launches of Immunoassays	
GDF-15	IGFBP-3
Active B-12*	Androstenedione
HIV Duo	17-OH-Progesteron
IGF-1*	
Chagas	
PIVKA	
HCV Duo	

- Part of the cobas 8000 family
- Double throughput on same footprint
- Installed base of 252

Launched in 2016
Launch planned in 2017
Launch planned in 2018
Launch planned in 2019

* Assays will be available on the cobas e 801 by 2018-2019

GDF 15 = growth-differentiation factor 15; Active B-12 = Vitamin B12; HIV Duo = HIV-1 and HIV-2 (HIV Antigen and HIV Antibody); IGF-1 = Insulin like growth factor; Pivka = Protein Induced by Vitamin K Absence or Antagonist II; HCV Duo (HCV Antigen and HCV antibody) IGFBP-3 = Insulin-like growth factor-binding protein 3; B2MG urine = Human β2 Microglobulin; AMH CDx = Anti-Müllerian hormone companion diagnostic; AB-42 = A beta Alzheimer marker; t-Tau p-Tau = Tau protein Alzheimer marker

Market leader in women's health

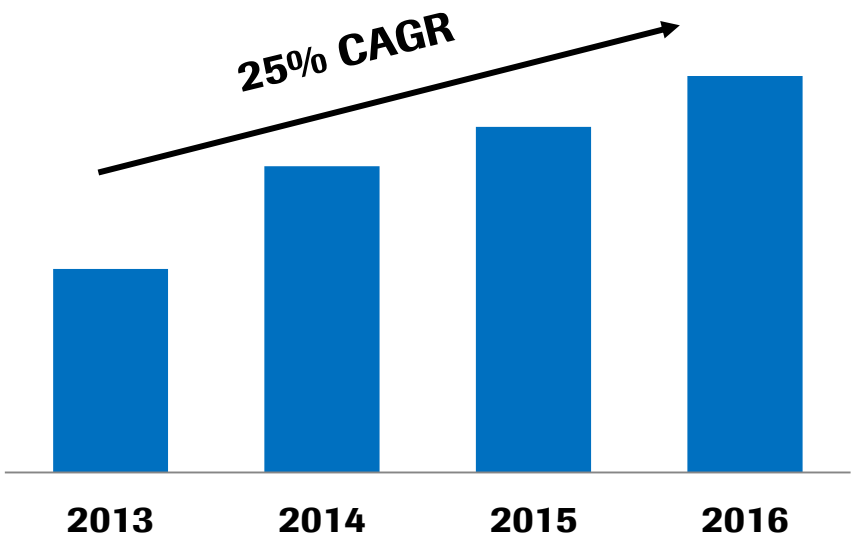
CE mark for HPV test on cobas 6800/8800

FDA clearance of CINtec Histology assay

Portfolio

Immunoassays	Molecular & sequencing	Tissue
Fertility	Cervical cancer*	Cervical cancer*
Prenatal testing	Virology	Breast cancer
Osteoporosis	Prenatal testing	
Ovarian cancer		
Breast cancer		
Sexually Transmitted Diseases		

Sales



* New 2017 launches

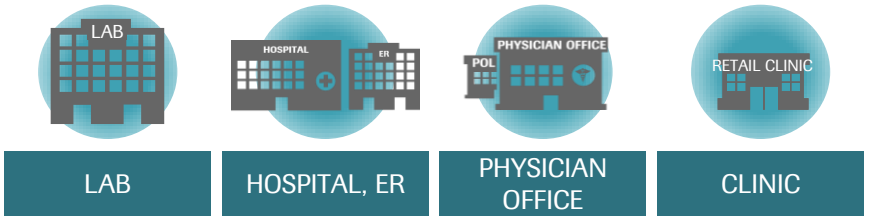
Menu expansion for the cobas Liat system

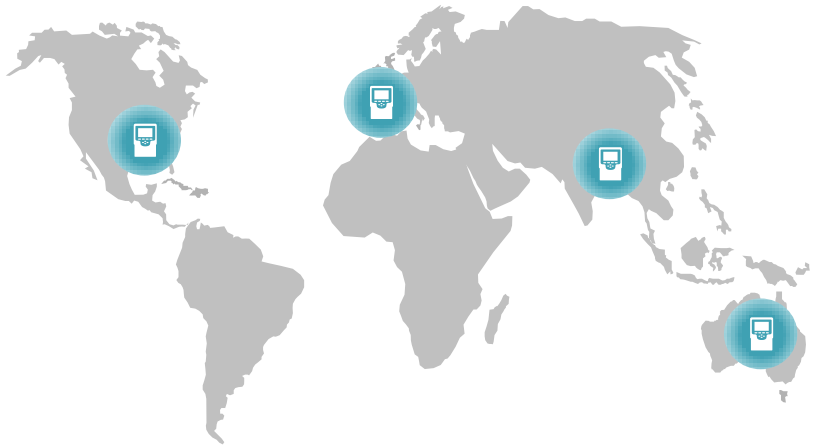
Global launch of respiratory & infectious disease menu

Growing menu

Available Globally	Upcoming Launches
Influenza A/B	MRSA/SA EU launch (2017)
Influenza A/B & RSV	Infectious Disease assays (forthcoming)
Strep A	
Cdiff*	

Solutions across all segments and regions





* Qualitative IVD test, that utilizes real-time PCR, for the direct detection of the tcdB gene of toxigenic *C. difficile* in unformed stool specimens; Not available yet in the US; RSV = Respiratory syncytial virus; Strep A = group A streptococcal infection; Cdiff = C. difficile; MRSA = methicillin-resistant Staphylococcus aureus; SA = Staphylococcus aureus

Key Launch List 2017

	Area	Product	Market
Instruments/ Devices	Central Laboratory	cobas 8000 <e 801> – High throughput immunochemistry analyser	US ✓
		CCM High Speed – cobas connection module (CCM) for up to 6000 samples/hour	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	EU ✓
		CINtec Histology – Diagnostic component of the Roche Cervical Cancer portfolio	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

Finance

Alan Hippe

Chief Financial Officer

Q1 2017: Highlights

Sales

- Good sales growth in both divisions

Guidance for FY 2017

- 2016 core EPS base is CHF 14.67 for outlook 2017 at CER

Currency impact

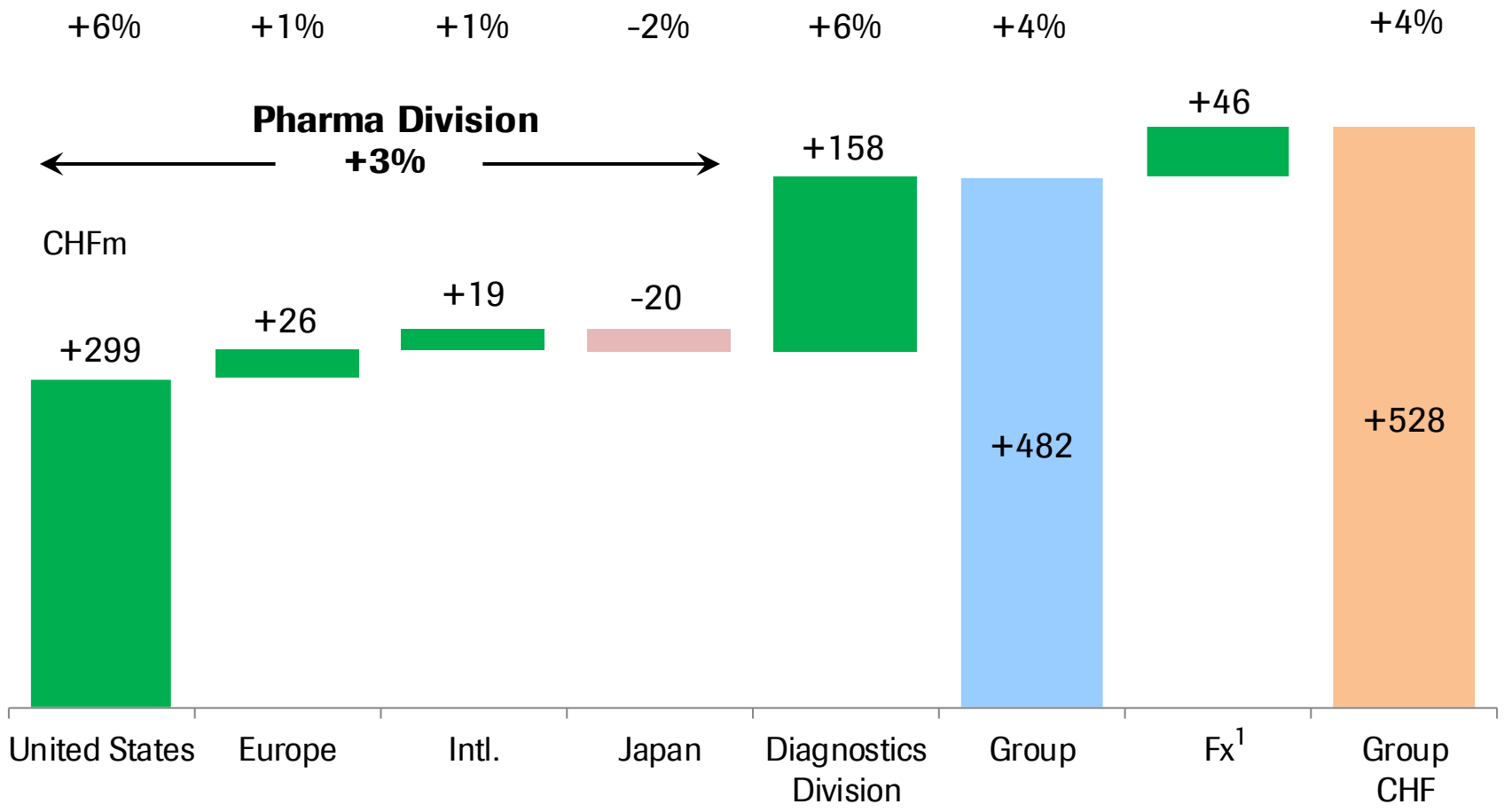
- Slight positive impact mainly from USD and BRL, offset by EUR and GBP

Capital markets update

- Bond issuance in March 2017: CHF 1.5bn in total
  - CHF: 0.4bn maturity in Sept 2018 - coupon 0.0%
  - CHF: 0.75bn maturity in Sept 2024 - coupon 0.1%
  - CHF: 0.35bn maturity in Mar 2029 - coupon 0.45%

Q1 2017: Group sales

Sales increase driven by US and Diagnostics Division

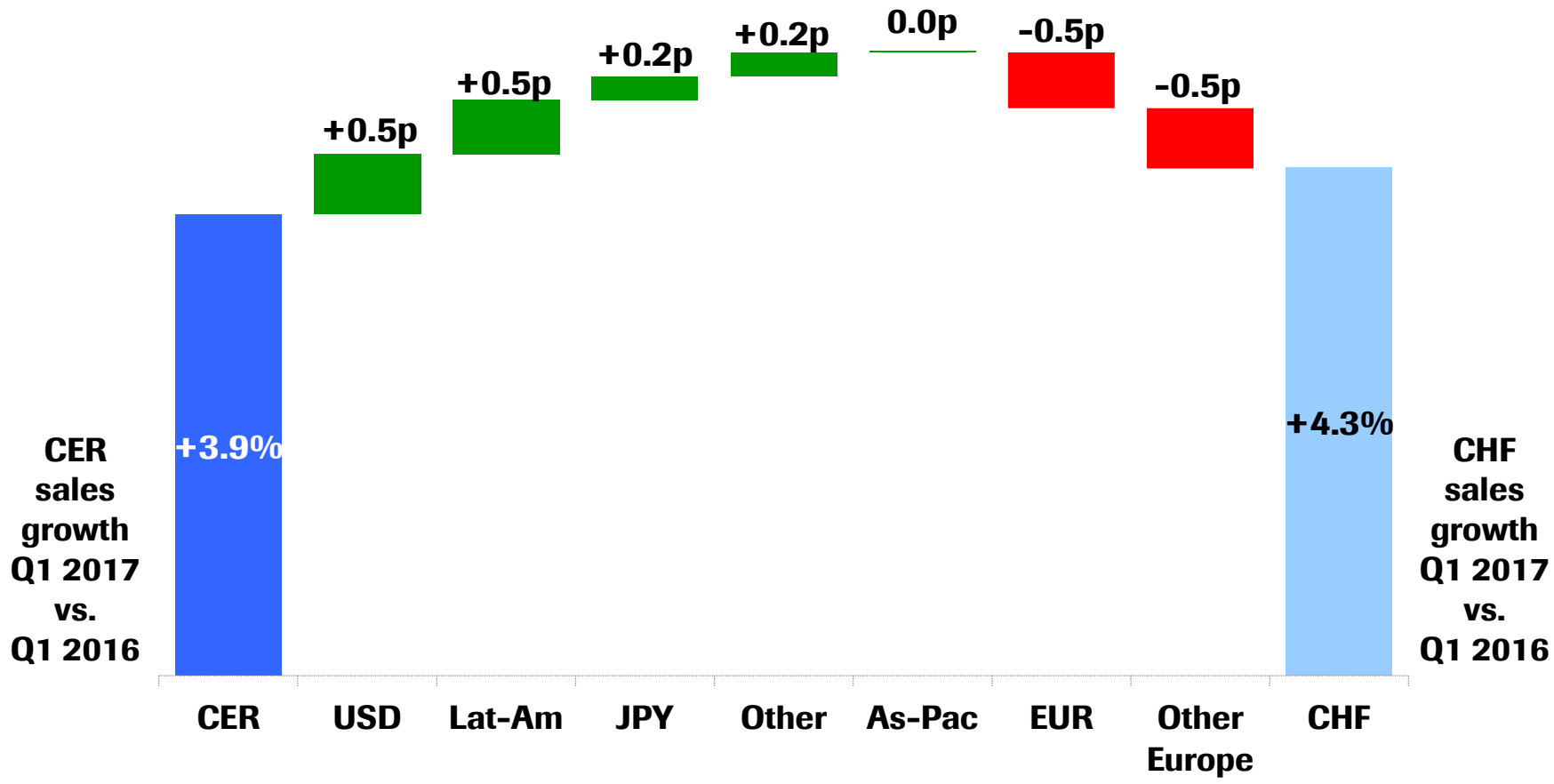


Absolute values and growth rates at Constant Exchange Rates (CER)

[1] average Full Year 2016 to average Q1 2017 Fx

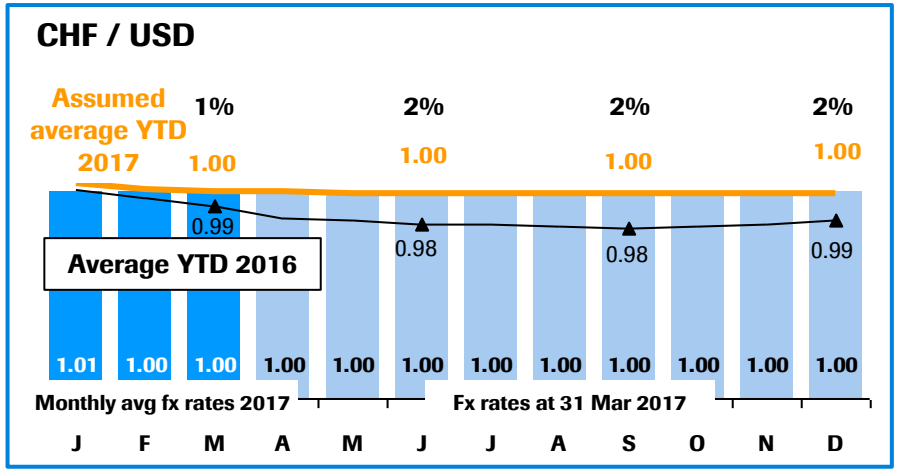
Exchange rate impact on sales growth

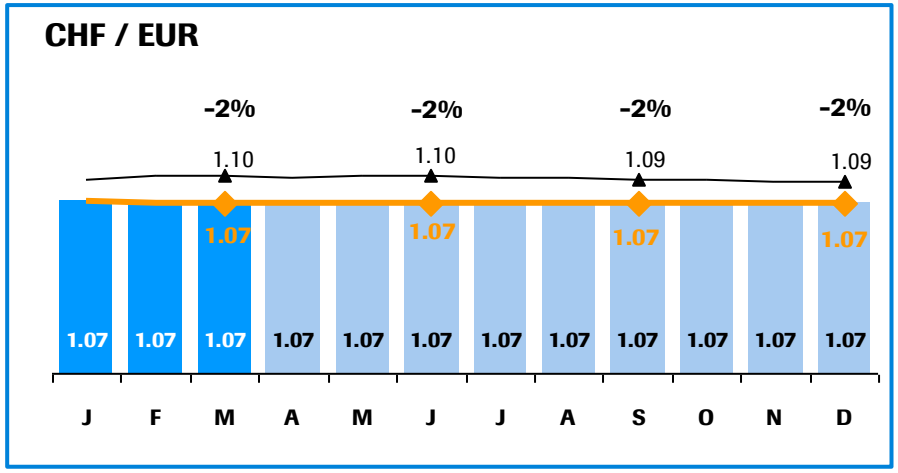
USD and Lat-Am offset by EUR and other Europe



CER = Constant Exchange Rates (avg full year 2016)

Low currency impact expected in 2017





Assuming the 31 March 2017 exchange rates remain stable until end of 2017, 2017 impact is expected to be (%p):

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

2017 outlook

Group sales growth[1]	Low to mid-single digit
Core EPS growth[1]	Broadly in line with sales growth
Dividend outlook	Further increase dividend in Swiss francs

[1] At Constant Exchange Rates (CER)

Pipeline summary

Marketed products additional indications

Global Development late-stage trials

pRED (Roche Pharma Research & Early Development)

gRED (Genentech Research & Early Development)

Roche Group Q1 2017 sales

Diagnostics

Foreign exchange rate information

Changes to the development pipeline
Q1 2017 update

New to phase I

2 NMEs:

RG6026 CD20 CD3 TCB – hematopoietic tumors

RG6004 HBV LNA – HBV

1 AI:

RG7601 Venclexta ± HMA – r/r MDS

New to phase II

1 AI:

RG7601 Venclexta + HMA – 1L MDS

New to phase III

2 AIs:

RG7446 Tecentriq + chemo + Avastin – 1L ovarian cancer

RG7601 Venclexta + HMA – 1L AML

New to registration

1 AI following filing in the EU and US (rolling submission):

RG7853 Alecensa – 1L ALK+ NSCLC

1 AI transitioned following filing in the US:

RG435 Avastin – GBM

Removed from phase I

2 NMEs:

RG7800 SMN2 splicer – SMA

RG7834 – HBV

Removed from phase II

2 NMEs:

RG6046 SERD – ER+(HER-neg) mBC

RG7227 danoprevir – HCV

1 AI:

RG3637 lebrikizumab – COPD

Removed from phase III

1 AI:

RG435 Avastin – mesothelioma

Removed from registration

1 NME following EU approval:

RG7853 Alecensa – 2L ALK+ NSCLC

1 AI following US approval:

RG3645 Lucentis – diabetic retinopathy w/o DME

Status as of April 27, 2017

Roche Group development pipeline

Phase I (42 NMEs + 27 AIs)

RG6016	LSD1 inh	SCLC
RG6026	CD20 CD3 TCB	hematopoietic tumors
RG6047	SERD (2)	ER+ (HER2-neg) mBC
RG6058	TIGIT ± Tecentriq	solid tumors
RG6061	HIF1 alpha LNA	solid tumors
RG6078	IDO inh	solid tumors
	IDO inh + Tecentriq	solid tumors
RG6114	mPI3K alpha inh	HR+ BC
RG6146	BET inh	solid + heme tumors
RG6180	personalised cancer vaccine	oncology
RG6185	pan-RAF inh	oncology
RG7155	emactuzumab + Tecentriq	solid tumors
	emactuzumab + CD40 iMAb	solid tumors
RG7159	anti-CD20 multiple combos	heme tumors
RG7386	FAP-DR5 biMAb	solid tumors
RG7421	Cotellic + Tecentriq + Avastin	2/3L CRC
RG7446	Tecentriq	solid tumors
	Tecentriq	NMIBC
	T + Zelboraf ± Cotellic	melanoma
	T ± Avastin ± chemo	HCC, GC, PaC
	T ± Avastin ± chemo	solid tumors
	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
RG7461	FAP IL2v FP + Tecentriq ± Avastin	RCC
RG7601	Venclexta multiple combos	NHL
	Venclexta + Gazyva	CLL
	Venclexta + Cotellic/idasanutlin	AML
	Venclexta ± HMA	r/r MDS
RG7741	ChK1 inh	solid tumors
RG7802	CEA CD3 TCB ± Tecentriq	solid tumors
RG7813	CEA IL2v FP* + Tecentriq	solid tumors
RG7828	CD20/CD3 TDB	heme tumors
RG7876	CD40 iMAb + Tecentriq	solid tumors
	CD40 iMAb + vanucizumab	solid tumors
RG7882	ADC	ovarian ca
RG7888	OX40 MAb	solid tumors
	OX40 MAb + Tecentriq	solid tumors
RG7986	ADC	r/r NHL
CHU	Raf/MEK dual inh	solid tumors
CHU	glypican-3/CD3 biMAb	solid tumors
RG3616	Erivedge + Esbriet	IPF
	Erivedge + ruxolitinib	myelofibrosis
RG6069	anti-fibrotic agent	fibrosis
RG6107	C5 inh MAb	PNH
RG7159	obinutuzumab	renal transplant
RG7880	IL-22Fc	inflammatory diseases
RG7990	-	asthma
RG6004	HBV LNA	HBV
RG6080	nacubactam (DBO β-lactamase inh)	bact.infections
RG7854	TLR7 agonist (3)	HBV
RG7861	*S. aureus* TAC	infectious diseases
RG7907	HBV Capsid (2)	HBV
RG7992	FGFR1/KLB MAb	metabolic diseases
RG6000	-	ALS
RG6029	Nav1.7 inh (2)	pain
RG6100	Tau MAb	Alzheimer's
RG7203	PDE10A inh	schizophrenia
RG7906	-	psychiatric disorders
RG7935	α-synuclein MAb	Parkinson's
IONIS	ASO	Huntington's
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
IONIS IONIS managed
PRO Proximagen managed
NOV Novimmune managed

*INN: cergutuzumab amunaleukin
**Ph3 in preparation
***out-licensed to Galderma and Maruho
T=Tecentriq

Phase II (20 NMEs + 12 AIs)

RG3502	Kadcyla + Tecentriq	2L HER2+ mBC
RG7221	vanucizumab	mCRC
RG7421	Cotellic + Tecentriq ± taxane	TNBC
RG7440	ipatasertib**	CRPC
	ipatasertib	1L TNBC
	ipatasertib	TNBC neoadj
RG7596	polatuzumab vedotin	1L DLBCL
RG7601	Venclexta + Rituxan	DLBCL
	Venclexta + Rituxan	r/r FL
	Venclexta + HMA	1L MDS
RG7604	taselisib + letrozole	(HER2-neg) BC neoadj
RG7686	codrituzumab	liver cancer
RG3637	lebrikizumab	atopic dermatitis
	lebrikizumab ± Esbriet	IPF
RG6125	Cadherin-11 MAb	RA
RG6149	ST2 MAb	asthma
RG7159	obinutuzumab	lupus
RG7625	Cat-S antag	autoimmune diseases
RG7845	BTK inh	autoimmune diseases
CHU	nemolizumab***	atopic dermatitis
CHU	nemolizumab	pruritus in dialysis pts
PRO	VAP-1 inh	inflammatory disease
NOV	TLR4 MAb	autoimmune diseases
RG6152	CAP endonuclease inh	influenza
RG7745	Flu A MAb	influenza A
CHU	URAT1 inh	gout
RG1662	basmisanil	CIAS, post-stroke recovery
RG6083	olesoxime	SMA
RG7314	V1a receptor antag	autism
RG7916	SMN2 splicer(2)	SMA
RG3645	ranibizumab PDS	wAMD
RG7716	VEGF-ANG2 biMAb	wAMD, DME

Status as of April 27, 2017

Roche Group development pipeline

Phase III (8 NMEs + 32 AIs)

RG1273	Perjeta + Herceptin	HER2+ BC adj
	Perjeta + Herceptin	HER2+1L gastric ca
RG3502	Kadcyla	HER2+ BC adj
	Kadcyla + Perjeta	HER2+ BC adj
RG6013	emicizumab	hemophilia A FVIII inh
	emicizumab	pediatric hemophilia A FVIII inh
	emicizumab	hemophilia A w/o FVIII inh
	emicizumab	Q4W hemophilia A
RG7204	Zelboraf	BRAFmut melanoma adj
RG7388	idasanutlin	AML
RG7421	Cotellic + Tecentriq	3L CRC
	Cotellic + T + Zelboraf	BRAFmut melanoma
RG7446	Tecentriq	NSCLC adj
	Tecentriq	MIBC adj
	Tecentriq Dx+	1L sq + non-sq SCLC
	Tecentriq	RCC adj
	T + Abraxane	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 + Abraxane	1L sq NSCLC
	T + Abraxane	TNBC
	T + Avastin	RCC
	T ± chemo	1L mUC
	T + chemo	1L extens. stage SCLC
	T + enzalutamide	CRPC
RG7601	Venclexta + Rituxan	r/r CLL
	Venclexta + Gazyva	1L CLL
	Venclexta + bortezomib	MM
	Venclexta + HMA	1L AML
RG7604	taselisib + fulvestrant	ER+(HER2-neg) mBC
RG105	MabThera	pemphigus vulgaris
RG1569	Actemra	systemic sclerosis
RG7413	etrolizumab	ulcerative colitis
	etrolizumab	Crohn's
RG1450	gantenerumab	Alzheimer's
RG6168	IL-6R Mab (SA237)	neuromyelitis optica
RG7412	crenezumab	Alzheimer's
RG7417	lampalizumab	geographic atrophy
RG3645	Lucentis 0,3mg PFS[1]	DME

Registration (2 NMEs + 8 AIs)

RG105	SC Rituxan[1]	NHL/CLL
RG435	Avastin[2]	GBM
	Avastin[3]	rel. ovarian ca. Pt-sensitive
RG7159	Gazyva[4]	1L FL
RG7446	Tecentriq[5]	2L mUC
	Tecentriq[6]	2L+ NSCLC
RG7853	Alecensa[7]	1L ALK+ NSCLC
RG1569	Actemra	giant cell arteritis
CHU	Actemra	large-vessel vasculitis
RG1594	OCREVUS®[6]	PPMS + RMS

1. Approved in EU – Filed in US
2. US only
3. Approved in US, filed in EU for chemo backbone extension
4. Filed in EU
5. Filing based on IMvigor210; accelerated approval in US for 1L & 2L; phase III in 2L ongoing
6. Approved in US
7. Filed in EU, rolling submission in US

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

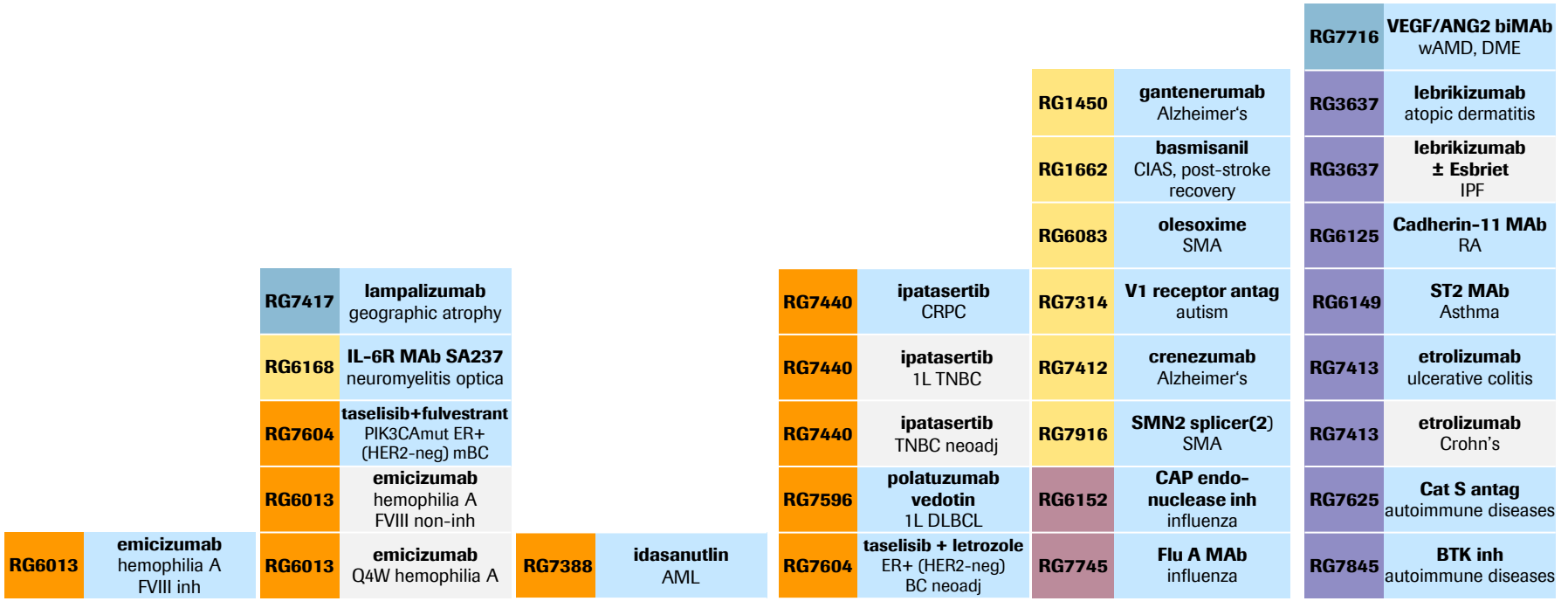
RG-No Roche/Genentech
CHU Chugai managed
RG105 Branded as Rituxan (US, Japan)
RG1569 Branded as RoActemra (EU)
RG7159 Branded as Gazyvaro (EU)

T=Tecentriq

Status as of April 27, 2017

NME submissions and their additional indications

Projects currently in phase II and III



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 April 27, 2017

AI submissions for existing products

Projects currently in phase II and III

2017		2018		2019		2020 and beyond	
RG3645	**Lucentis 0.3mg PFS (US)** DME	RG105	**MabThera** pemphigus vulgaris	RG7421	**Cotellic + Tecentriq** 3L CRC	RG3502	**Kadcyla + Tecentriq** 2L Her2+ mBC
RG435	**Avastin (US) ✓** GBM	RG1569	**Actemra** systemic sclerosis	RG7421	**Cotellic + Tecentriq + Zelboraf** BRAFmut melanoma	RG3502	**Kadcyla + Perjeta** HER2+ BC adj.
RG1273	**Perjeta + Herceptin** 1L HER2+ gastric cancer	RG7446	**Tecentriq + chemo + Avastin** 1L non-sq NSCLC	RG7446	**Tecentriq** 1L non-sq + sq NSCLC (Dx+)	RG3502	**Kadcyla** HER2+ BC adj.
RG1273	**Perjeta + Herceptin** HER2+ BC adj.	RG7446	**Tecentriq + Abraxane** 1L sq NSCLC	RG7446	**Tecentriq + chemo + pemetrexed** 1L non-sq NSCLC	RG7446	**Tecentriq + enzalutamide** CRPC
RG7159	**Gazyva (US)** 1L FL	RG7446	**Tecentriq + Abraxane** 1L non-sq NSCLC	RG7601	**Venclexta + Gazyva** 1L CLL	RG7446	**Tecentriq** RCC adj
RG7204	**Zelboraf** BRAFmut melanoma adj.	RG7446	**Tecentriq + chemo** 1L extens. stage SCLC	RG7601	**Venclexta + bortezomib** MM	RG7446	**Tecentriq + chemo + Avastin** 1L ovarian cancer
RG7601	**Venclexta + Rituxan** r/r CLL	RG7446	**Tecentriq + Avastin** RCC			RG7601	**Venclexta + Rituxan** r/r FL
RG7853	**Alecensa[1] ✓** 1L ALK+ NSCLC	RG7446	**Tecentriq + Abraxane** TNBC			RG7601	**Venclexta + Rituxan** DLBCL
						RG7601	**Venclexta + HMA** 1L AML
						RG7601	**Venclexta + HMA** 1L MDS
						RG3645	**ranibizumab PDS** wAMD
						RG7159	**obinutuzumab** lupus nephritis
						RG7421	**Cotellic + Tecentriq ± taxane** TNBC
						RG7446	**Tecentriq ± chemo** 1L mUC
						RG7446	**Tecentriq** NSCLC adj
						RG7446	**Tecentriq** MIBC adj

✓ Indicates submission to health authorities has occurred
1 Filed in EU, rolling submission in US
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 April 27, 2017

Major granted and pending approvals 2017

	US		EU		Japan-Chugai	
Approved	RG1594	**OCREVUS®** PPMS & RMS March 2017	RG7853	**Alecensa** 2L ALK+ NSCLC February 2017		
	RG3645	**Lucentis** mCNV January 2017				
	RG3645	**Lucentis** diabetic retinopathy w/o DME April 2017				
	RG7446	**Tecentriq** 1L bladder cancer cis-ineligible April 2017				
Pending Approval	RG435	**Avastin** GBM	RG7853	**Alecensa** 1L ALK+ NSCLC Filed March 2017	RG7446	**Tecentriq** NSCLC 2L+ Filed February 2017
	RG7853	**Alecensa** 1L ALK+ NSCLC Rolling submission March 2017	RG7446	**Tecentriq** mUC 2L Filed April 2016	CHU	**Actemra** large-vessel vasculitis Filed November 2016
	RG1569	**Actemra** giant cell arteritis Filed November 2016	RG7446	**Tecentriq** NSCLC 2L+ Filed April 2016		
			RG7159	**Gazyva** follicular lymphoma 1L Filed October 2016		
			RG1594	**OCREVUS®** PPMS & RMS Filed April 2016		
			RG1569	**Actemra** giant cell arteritis Filed November 2016		

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

Status as of April 27, 2017

Roche Group Development pipeline
Combinations

Phase I (6 NMEs + 23 AIs)

RG6058	TIGIT ± Tecentriq	solid tumors
RG6078	IDO inh +Tecentriq	solid tumors
RG7155	emactuzumab + Tecentriq	solid tumors
	emactuzumab + CD40 iMAb	solid tumors
RG7159	anti-CD20 multiple combos	heme tumors
RG7421	Cotellic + Tecentriq + Avastin	2/3L CRC
RG7446	T + Zelboraf ± Cotellic	melanoma
	T ± Avastin ± chemo	HCC, GC, PaC
	T ± Avastin ± chemo	solid tumors
	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
RG7461	FAP IL2v FP + Tecentriq ± Avastin	RCC
RG7601	Venclexta multiple combos	NHL
	Venclexta + Gazyva	CLL
	Venclexta + Cotellic/idasanutlin	AML
	Venclexta ± HMA	r/r MDS
RG7802	CEA CD3 TCB ± Tecentriq	solid tumors
RG7813	CEA* IL2v FP + Tecentriq	solid tumors
RG7876	CD40 iMAb + Tecentriq	solid tumors
	CD40 iMAb + vanucizumab	solid tumors
RG7888	OX40 Mab + Tecentriq	solid tumors
RG3616	Erivedge + Esbriet	IPF
	Erivedge + ruxolitinib	myelofibrosis

Phase II (7 AIs)

RG3502	Kadcyla + Tecentriq	2L HER2+ mBC
RG7421	Cotellic + Tecentriq taxane	TNBC
RG7601	Venclexta + Rituxan	DLBCL
	Venclexta + Rituxan	r/r FL
	Venclexta + HMA	1L MDS
RG7604	taselisib + letrozole	(HER2-) BC neoadj
RG3637	lebrikizumab ± Esbriet	IPF

Phase III (1 NMEs + 19 AIs)

RG1273	Perjeta + Herceptin	HER2+ BC adj
	Perjeta + Herceptin	1L HER2+ gastric ca
RG3502	Kadcyla + Perjeta	HER2+ BC adj
RG7421	Cotellic + Tecentriq	3 L CRC
	Cotellic + T + Zelboraf	BRAFm melanoma
RG7446	T + Abraxane	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 + Abraxane	1L sq NSCLC
	T + Abraxane	TNBC
	T + Avastin	RCC
	T ± chemo	1L mUC
	T + chemo	1L extens. stage SCLC
	T + enzalutamide	CRPC
RG7601	Venclexta + Rituxan	r/r CLL
	Venclexta + Gazyva	1L CLL
	Venclexta + bortezomib	MM
	Venclexta + HMA	1L AML
RG7604	taselisib + fulvestrant	ER+ (HER2-neg) mBC

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

RG-No Roche/Genentech
CHU Chugai managed
*INN: cergutuzumab amunaleukin
T=Tecentriq

Status as of April 27, 2017

Cancer immunotherapy pipeline overview

Phase I (11 NMEs + 28 AIs)

RG6026	CD20 CD3 TCB	hematopoietic tumors
RG6058	TIGIT ± Tecentriq	solid tumors
RG6078	IDO inh	solid tumors
	IDO inh + Tecentriq	solid tumors
RG6180	personalized cancer vaccine	oncology
RG7155	emactuzumab + Tecentriq	solid tumors
	emactuzumab + CD40 iMAb	solid tumors
RG7421	Cotellic + Tecentriq + Avastin	2/3L CRC
RG7446	Tecentriq	solid tumors
	Tecentriq	NMIBC
	T + Zelboraf ± Cotellic	melanoma
	T ± Avastin ± chemo	HCC-GC-PaC
	T ± Avastin ± chemo	solid tumors
	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
RG7461	FAP IL2v FP + Tecentriq ± Avastin	RCC
RG7802	CEA CD3 TCB ± Tecentriq	solid tumors
RG7813	CEA* IL2v FP+Tecentriq	solid tumors
RG7828	CD20/CD3 TDB	heme tumors
RG7876	CD40 iMAb + Tecentriq	solid tumors
	CD40 iMAb + vanucizumab	solid tumors
RG7888	OX40 iMAb	solid tumors
	OX40 iMAb + Tecentriq	solid tumors
INCY**	Tecentriq + epacadostat	solid tumors
CLDX**	Tecentriq + varlilumab	solid tumors
CRVS**	Tecentriq + CPI-444	solid tumors
KITE**	Tecentriq + KTE-C19	r/r DLBCL
AMGN**	Tecentriq + talimogene laherp	TNBC, CRC
JNJ**	Tecentriq ± daratumumab	solid tumors
CLVS**	Tecentriq + rucaparib	ovarian ca
EPZM**	Tecentriq + tazemetostat	r/r DLBCL
BLRX**	Tecentriq + BL-8040	AML, solid tumors

Phase II (4 AIs)

RG3502	Kadcyla + Tecentriq	HER2+ 2L mBC
RG7421	Cotellic + Tecentriq ± taxane	TNBC
IMDZ**	Tecentriq + NY-ESO-1	soft tissue sarcoma
SNDX**	Tecentriq + entinostat	TNBC

Phase III (15 AIs)

RG7421	Cotellic + Tecentriq	3 L CRC
	Cotellic + T + Zelboraf	BRAFm melanoma
RG7446	Tecentriq	NSCLC adj
	Tecentriq	MIBC adj
	T + Abraxane	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 + Abraxane	1L sq NSCLC
	T + Abraxane	TNBC
	T + Avastin	RCC
	T ± chemo	1L mUC
	T + chemo	1L extens. stage SCLC
	T + enzalutamide	CRPC
	Tecentriq Dx+	1L sq+non-sq SCLC
	Tecentriq	RCC adj

Registration (1 NMEs + 1 AIs)

RG7446	Tecentriq[1]	2L mUC
	Tecentriq[2]	2L+ NSCLC

1. Filing based on IMvigor210, accelerated approval in US for 1L & 2L; phase III in 2L ongoing
2. Approved in US

** External collaborations: INCY- Incyte IDO inh; CLDX – Celldex CD27 MAb; CRVS – Corvus ADORA2A antag; KITE – Kite KTE-C19; AMGN – Amgen oncolytic virus; JNJ – Janssen CD38 MAb; CLVS – Clovis PARP inh; EPZM – Epizyme EZH2 inh; BLRX - BioLine Rx CXCR4 antag; IMDZ – Immune Design CMB305; SNDX – Syndax HDAC inh

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

RG-No Roche/Genentech
*INN: cergutuzumab amunaleukin
T=Tecentriq

Status as of April 27, 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 Q1 2017 sales

Diagnostics

Foreign exchange rate information

Alecensa (alectinib, RG7853, AF802)

New CNS-active inhibitor of anaplastic lymphoma kinase

Indication	Treatment-naïve ALK-positive advanced non-small cell lung cancer (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 (PFS)	▪ Progression-free survival (PFS)	▪ **Phase I:** Determination of recommended dose ▪ **Phase II:** Safety and efficacy
Status	▪ Recruitment completed Q3 2015 ▪ Primary endpoint met Q1 2017 ▪ Data to be presented at ASCO 2017	▪ Primary analysis positive ▪ Data presented at ASCO 2016 ▪ Breakthrough designation granted by FDA Q3 2016 ▪ Filed in EU, rolling submission in US in Q1 2017	▪ Results published in *Lancet Oncology* 2013 Jun;14(7):590-8 ▪ Approved in Japan July 2014

In collaboration with Chugai
ASCO=American Society of Clinical 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, Sept.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
	▪ Filed Q2 (US) and Q3 (EU) 2015 ▪ Priority review granted by FDA Q3 2015 ▪ Breakthrough designation granted by FDA Q2 2013 ▪ Approved in US Q4 2015 and EU Q1 2017	

In collaboration with Chugai
ECC=European Cancer Congress; ASCO=American Society of Clinical Oncology;
WCLC=World Conference on Lung Cancer; ESMO=European Society for Medical Oncology

Avastin

Clinical development program

Indication	Relapsed platinum-sensitive ovarian cancer	Newly diagnosed glioblastoma
Phase/study	**Phase III GOG-0213**	**Phase III AVAglio**
# of patients	N=674	N=920
Design	▪ **ARM A**: carboplatin and paclitaxel ▪ **ARM B**: carboplatin, paclitaxel and Avastin (from cycle 2 onwards until disease progression).	▪ **ARM A:** Concurrent radiation and temozolomide plus placebo; followed by maintenance temozolomide (TMZ) plus placebo for 6 cycles; then placebo until disease progression ▪ **ARM B:** Concurrent radiation and TMZ plus Avastin; followed by maintenance TMZ plus Avastin for 6 cycles; then Avastin (15mg/kg q3 weeks) monotherapy until disease progression
Avastin dose	▪ 15 mg/kg q3 weeks	▪ 10 mg/kg q2 weeks or 15 mg/kg q3 weeks
Primary endpoint	▪ Overall survival	▪ Progression-free survival and overall survival
Status	▪ Study showed a 4.9 mo overall survival benefit ▪ Presented SGO Q1 2015 ▪ Approved in US in Q4 2016; filed in EU for chemo backbone extension	▪ Co-primary endpoint of PFS met Q3 2012 ▪ Overall survival data presented at ASCO 2013 ▪ Filed in EU Q1 2013 ▪ Negative CHMP opinion Q3 2014 ▪ Filed in US Q1 2017

SGO=Society of Gynecologic Oncology; ASCO=American Society of Clinical Oncology

Cotellic (cobimetinib)

Selective small molecule inhibitor of MAPK kinase

Indication	Third-line advanced or metastatic colorectal cancer	2L/3L metastatic colorectal cancer	Locally advanced or metastatic tumors
Phase/study	**Phase III IMblaze370**	**Phase I**	**Phase I**
# of patients	N=360	N=33	N=151
Design	▪ **ARM A:** Tecentriq ▪ **ARM B:** Cotellic + Tecentriq ▪ **ARM C:** regorafenib	Open-label, single-arm, two-stage study with Cotellic plus Tecentriq plus Avastin ▪ **Stage 1:** Safety run-in ▪ **Stage 2:** Dose-expansion with two cohorts – (1) expansion, (2) biopsy	▪ **ARM A:** Dose-finding - Cotellic + Tecentriq ▪ **ARM B:** Dose-expansion - Cotellic + Tecentriq
Primary endpoint	▪ Overall survival	▪ Safety	▪ Safety
Status	▪ FPI Q2 2016 ▪ Recruitment completed Q1 2017	▪ FPI Q3 2016	▪ FPI Q4 2013 ▪ CRC data presented at ASCO and ESMO 2016

In collaboration with Exelixis

ESMO=European Society for Medical Oncology; ASCO=American Society of Clinical Oncology; CRC=colorectal cancer

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 + paclitaxel ▪ **ARM B:** placebo + paclitaxel ▪ **ARM C:** Cotellic + Tecentriq + nab-paclitaxel ▪ **ARM D:** Cotellic + Tecentriq + paclitaxel	Phase I (dose escalation) ▪ **ARM A:** Cotellic + Venclexta ▪ **ARM B:** idasanutlin + Venclexta Phase II (expansion) ▪ **ARM A:** Cotellic + Venclexta ▪ **ARM B:** idasanutlin + Venclexta
Primary endpoint	▪ Progression-free survival and safety	▪ Safety and efficacy
Status	▪ FPI Q1 2015 ▪ FPI Arms C and D: Q4 2016	▪ FPI Q1 2016

In collaboration with Exelixis

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
Phase/study	**Phase III** **IMspire150 TRILOGY**	**Phase III** **IMspire170**	**Phase I**
# of patients	N=500	N=500	N=70
Design	Double-blind, randomized, placebo-controlled study ▪ **ARM A:** Tecentriq + Cotellic + Zelboraf[1] ▪ **ARM B:** placebo + Cotellic + Zelboraf[1]	▪ **ARM A:** Cotellic + Tecentriq ▪ **ARM B:** pembrolizumab	▪ Dose-finding study of Cotellic + Tecentriq (PD-L1 MAb) + Zelboraf[1] and Tecentriq (PD-L1 MAb) + Zelboraf[1] combinations
Primary endpoint	▪ Progression-free survival	▪ Progression-free survival and overall survival	▪ Safety and PK
Status	▪ FPI Jan 2017	▪ FPI expected Q2 2017	▪ FPI Q4 2012 ▪ Data presented at ESMO 2016

In collaboration with Exelixis

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

Erivedge

Small molecule inhibitor of the hedgehog pathway

Indication	Locally advanced or metastatic basal cell carcinoma	Idiopathic pulmonary fibrosis	Intermediate- or high-risk myelofibrosis (MF)
Phase/study	**Phase II STEVIE**	**Phase Ib ISLAND 2**	**Phase Ib MYLIE**
# of patients	N=1,200	N=20	N=20
Design	▪ Erivedge orally once daily	▪ Erivedge plus Esbriet	▪ Erivedge plus ruxolitinib
Primary endpoint	▪ Safety	▪ Safety and tolerability	▪ Safety and efficacy
Status	▪ FPI Q2 2011 ▪ Recruitment completed Q3 2014 ▪ Interim data presented at SMR 2014 ▪ EU conversion to full approval Q4 2016	▪ FPI Q1 2016	▪ FPI Q1 2016

In collaboration with Curis
SMR=Society for Melanoma Research

Gazyva/Gazyvaro (obinutuzumab)

Oncology development program

Indication	Diffuse large B-cell lymphoma (DLBCL)	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 July 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	▪ Trial stopped at interim for efficacy (May 2016) ▪ Data presented at ASH 2016 ▪ Filed in EU Q4 2016

In collaboration with Biogen

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	HER2-positive advanced (2L+) NSCLC
Phase/study	**Phase III KATHERINE**	**Phase III KAITLIN**	**Phase II KATE2**	**Phase II**
# of patients	N=1,484	N=1,850	N=200	N=40
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	▪ Single-agent Kadcyla 3.6 mg/kg Q3W
Primary endpoint	▪ Invasive disease-free survival (IDFS)	▪ Invasive disease-free survival (IDFS)	▪ Progression-free survival	▪ Overall response rate and safety
Status	▪ Recruitment complete Q4 2015 ▪ Data expected in 2018	▪ Recruitment complete Q2 2015 ▪ Data expected in 2019	▪ FPI Q3 2016	▪ FPI Q4 2014 ▪ Recruitment complete Q2 2016 ▪ Study did not meet efficacy criteria Q4 2016 ▪ Data to be presented at ASCO 2017

In collaboration with ImmunoGen, Inc.
ADC=antibody drug conjugate; ASCO=American Society of Clinical Oncology

MabThera/Rituxan

Oncology and immunology development programs

Indication	Previously untreated chronic lymphocytic leukemia	Front-line follicular non-Hodgkin's lymphoma	Moderate to severely active pemphigus vulgaris
Phase/study	**Phase Ib** **SAWYER** Subcutaneous study (ex-US)	**Phase III** **SABRINA** Subcutaneous study (ex-US)	**Phase III** **PEMPHIX**
# of patients	N=225	N=405	N=124
Design	*Two-stage design:* - Stage 1 (dose-finding, N=55) - Stage 2 (N=170): CLL dose confirmation: ▪ **ARM A**: MabThera IV plus chemotherapy (fludarabine and cyclophosphamide) ▪ **ARM B**: MabThera 1600mg SC plus chemotherapy (fludarabine and cyclophosphamide)	▪ **ARM A:** MabThera iv plus chemotherapy (CHOP or CVP) ▪ **ARM B:** MabThera 1400mg SC plus chemotherapy (CHOP or CVP) *Two-stage design:* - Stage 1 (dose confirmation, N=127): PK primary endpoint - Stage 2 (N=280): Efficacy primary endpoint (ORR) *Responders will continue on maintenance every 8 weeks over 24 months*	▪ **ARM A:** Rituxan ▪ **ARM B:** mycophenolate mofetil
Primary endpoint	▪ Part 1: PK (dose selection) ▪ Part 2: PK of MabThera IV versus MabThera SC (arm A vs. arm B)	▪ Pharmacokinetics, safety and efficacy	▪ Proportion of patients who achieve sustained complete remission
Status	▪ Stage 2 data confirmed non-inferior PK and comparable safety/efficacy of MabThera 1600mg SC vs. MabThera IV	▪ Stage 1 primary endpoint (PK non-inferiority) met	▪ FPI Q2 2015 ▪ Results published in *Lancet* (Online first on 22 March 2017)
	▪ EU approval granted Q2 2016 ▪ Filed US Q3 2016		

Subcutaneous MabThera applies Enhanze technology, partnered with Halozyme
SC=subcutaneous; ASH=American Society of Hematology

Perjeta

First-in-class HER2 dimerisation inhibitor

Indication	Adjuvant HER2-positive breast cancer	Neoadjuvant/adjuvant HER2-positive breast cancer	Advanced HER2-positive gastric cancer
Phase/study	**Phase III APHINITY**	**Phase II BERENICE**	**Phase III JACOB**
# of patients	N=4,803	N=401	N=780
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 Perjeta plus Herceptin x4 cycles ▪ **ARM B:** FEC plus Perjeta plus Herceptin x4 cycles followed by docetaxel plus Perjeta plus Herceptin x4 cycles Adjuvant treatment: ▪ P+H q3w to complete 1 year of HER2 therapy ▪ Hormonal and radiation therapy as indicated	▪ **ARM A:** Perjeta (840mg loading, 420mg q3w) plus Herceptin and chemotherapy ▪ **ARM B:** placebo plus Herceptin and chemotherapy
Primary endpoint	▪ Invasive disease-free survival (IDFS)	▪ Safety	▪ Overall survival
Status	▪ Recruitment completed Q3 2013 ▪ Primary endpoint met Q1 2017 ▪ Data to be presented at ASCO 2017	▪ Recruitment completed Q3 2015 ▪ Data in-house ▪ Data presented at SABCS 2016	▪ Recruitment completed Q1 2016 ▪ Data expected in 2017

ddAC=dose-dense doxorubicin plus cyclophosphamide; FEC=fluorouracil, epirubicin and cyclophosphamide; SABCS=San Antonio Breast Cancer Symposium

Tecentriq (atezolizumab, RG7446)

Anti-PDL1 cancer immunotherapy – lung cancer

Indication	1L non-squamous and squamous NSCLC PD-L1-selected patients	1L non-squamous NSCLC	1L non-squamous NSCLC	1L non-squamous NSCLC
Phase/study	**Phase III IMpower110**	**Phase III IMpower150**	**Phase III IMpower130**	**Phase III IMpower132**
# of patients	N=570	N=1,200	N=650	N=568
Design	▪ **ARM A:** Tecentriq monotherapy ▪ **ARM B**: (NSq) carboplatin or cisplatin + pemetrexed (Sq) carboplatin or cisplatin + gemcitabine	▪ **ARM A:** Tecentriq + paclitaxel + carboplatin ▪ **ARM B**: Tecentriq + Avastin + paclitaxel + carboplatin ▪ **ARM C**: Avastin + paclitaxel + carboplatin	▪ **ARM A:** Tecentriq + nab-paclitaxel + carboplatin ▪ **ARM B**: nab-paclitaxel + carboplatin	▪ **ARM A:** Tecentriq + carboplatin or cisplatin + pemetrexed ▪ **ARM B**: carboplatin or cisplatin + pemetrexed
Primary endpoint	▪ Progression-free survival and overall survival	▪ Progression-free survival and 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 Q4 2016	▪ FPI Q1 2015 ▪ Recruitment completed Q1 2017	▪ FPI Q2 2016

NSq=non-sqamous; Sq=sqamous

Tecentriq (atezolizumab, RG7446)

Anti-PDL1 cancer immunotherapy – lung cancer

Indication	Adjuvant NSCLC	1L squamous NSCLC	1L extensive-stage SCLC
Phase/study	**Phase III IMpower010**	**Phase III IMpower131**	**Phase III IMpower133**
# of patients	N=1,127	N=1,025	N=400
Design	Following adjuvant cisplatin-based chemotherapy ▪ **ARM A:** Tecentriq ▪ **ARM B**: best supportive care	▪ **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 + etoposide ▪ **ARM B**: Placebo plus carboplatin plus etoposide
Primary endpoint	▪ Disease-free survival	▪ Progression-free survival and overall survival	▪ Progression-free survival and overall survival
Status	▪ FPI Q3 2015 ▪ Trial amended from PD-L1-selected patients to all-comers ▪ FPI for all-comer population Q4 2016	▪ FPI Q2 2015 ▪ Recruitment completed Q1 2017	▪ FPI Q2 2016 ▪ Orphan drug designation granted by FDA October 2016

Tecentriq (atezolizumab, RG7446)

Anti-PDL1 cancer immunotherapy – lung cancer

Indication	Metastatic non-small cell lung cancer (NSCLC) 2L	Locally advanced or metastatic NSCLC PD-L1 positive	Locally advanced or metastatic NSCLC PD-L1 positive	Locally advanced or metastatic NSCLC (2L/3L)	Extensive-stage small cell lung cancer 1L
Phase/study	**Phase III OAK**	**Phase II FIR**	**Phase II BIRCH**	**Phase II POPLAR**	**Phase I**
# of patients	N=1,225	N=130	N=667	N=287	N=53
Design	▪ **ARM A:** Tecentriq 1200mg q3w ▪ **ARM B:** docetaxel	Single arm study: ▪Tecentriq 1200mg q3w	Single arm study: ▪Tecentriq 1200mg q3w	▪ **ARM A**: Tecentriq 1200mg q3w ▪ **ARM B**: docetaxel	▪ Tecentriq plus Tarceva[1] or Alecensa
Primary endpoint	▪ Overall survival	▪ Overall response rate	▪ Objective response rate	▪ Overall survival	▪ Safety
Status	▪ Recruitment completed Q2 2015 ▪ Data presented at ESMO 2016 ▪ Data filed with US FDA Q3 2016 ▪ Results published in *Lancet*, 21 Jan 2017 ▪ Data to be presented at ASCO 2017	▪ Recruitment completed Q2 2014 ▪ Data presented at ASCO 2015	▪ Recruitment completed Q4 2014 ▪ Primary analysis presented at ECC 2015	▪ Recruitment completed Q2 2014 ▪ Data presented at ASCO 2015 (interim) and ECC 2015 (primary) ▪ Results published in *Lancet*, 9 March 2016 ▪ Updated data presented at ASCO 2016	▪ 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
		▪ Filed with the US FDA Q1 2016 ▪ Priority review granted Q1 2016			
	▪ Approved in US October 2016				

[1] Tarceva is a registered trademark of OSI Pharmaceuticals, LLC, a subsidiary of Astellas US, LLC

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

Tecentriq (atezolizumab, RG7446)

Anti-PDL1 cancer immunotherapy – UC

Indication	Adjuvant high risk muscle invasive bladder cancer PD-L1-positive patients	Locally advanced or metastatic urothelial bladder cancer	
Phase/study	**Phase III** **IMvigor010**	**Phase III** **IMvigor211**	**Phase II** **IMvigor210**
# of patients	N=440	N=932	N=439
Design	After cystectomy: ▪ **ARM A:** Tecentriq monotherapy ▪ **ARM B**: observation	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
Primary endpoint	▪ Disease-free survival	▪ Overall survival	▪ Objective response rate
Status	▪ FPI October 2015	▪ Recruitment completed Q1 2016	▪ Cohort 2: US accelerated approval Q2 2016; filed in EU Q2 2016 ▪ Cohort 2 results published in *Lancet*, 4 Mar 2016 ▪ Updated data (Cohorts 1 and 2) presented at ESMO 2016 ▪ Cohort 1: Data filed with the US FDA Q4 2016, priority review granted, accelerated approval granted by FDA April 2017

UC=urothelial carcinoma; ESMO=European Society for Medical Oncology

Tecentriq (atezolizumab, RG7446)

Anti-PDL1 cancer immunotherapy – UC

Indication	1L metastatic urothelial carcinoma	High-risk non-muscle-invasive bladder cancer
Phase/study	**Phase III** **IMvigor130**	**Phase Ib/II**
# of patients	N=1,200	N=70
Design	▪**ARM A:** Tecentriq plus gemcitabine and carboplatin or cisplatin ▪**ARM B**: placebo plus gemcitabine and carboplatin or cisplatin ▪**ARM C**: Tecentriq monotherapy	▪**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	▪ Progression-free survival, overall survival and safety	▪ Safety and objective response rate
Status	▪ FPI Q3 2016 ▪ Trial currently being modified to include patients who are eligible for a cisplatin-containing regimen (patients ineligible for cisplatin continue to be enrolled), and to add a third arm evaluating atezolizumab monotherapy ▪ FPI for Arm C (amended study) Q1 2017	▪ FPI Q2 2016

UC=urothelial carcinoma; BCG=Bacille Calmette-Guérin; NMIBC=non-muscle invasive bladder cancer

Tecentriq (atezolizumab, RG7446)

Anti-PDL1 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 Jan 2017	▪ FPI Q2 2015	▪ Recruitment completed Q1 2015 ▪ Presented at ASCO GU and AACR 2017 ▪ Updated data to be presented at ASCO 2017

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

Tecentriq (atezolizumab, RG7446)

Anti-PDL1 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=558
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 Jan 2017

Tecentriq (atezolizumab, RG7446)

Anti-PDL1 cancer immunotherapy – CRC

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=33
Design	▪ **ARM A**: Tecentriq ▪ **ARM B**: Cotellic[1] + 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

[1] Cotellic in collaboration with Exelixis
CRC=colorectal cancer

Tecentriq (atezolizumab, RG7446)

Anti-PDL1 cancer immunotherapy – solid tumors

Indication	Solid tumors	Solid tumors	Solid tumors	Solid tumors
Phase/study	**Phase I**	**Phase I**	**Phase I**	**Phase I**
# of patients	N=86	N=225	N=160	N=162
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	▪ **Part I:** sequential and single concomitant administration of Tecentriq and RG7876 (CD40 MAb, IV and SC., dose escalation) ▪ **Part II:** multiple doses of concomitant Tecentriq and RG7876 (CD40 MAb), recommended dose and route per Part I ▪ **Part III:** study drugs schedule in specific indication per Part II	Tecentriq in combination with emactuzumab (CSF-1R MAb) ▪ **Part 1**: dose escalation ▪ **Part 2**: expansion
Primary endpoint	▪ Safety	▪ Safety and PK	▪ Safety	▪ 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 2014	▪ FPI Q1 2015

AACR=American Association for Cancer Research; ASCO=American Society of Clinical Oncology;
HCC=hepatocellular carcinoma; PaC=pancreatic cancer; mEC=metastatic esophageal cancer; TNBC=triple-negative breast cancer

Tecentriq (atezolizumab, RG7446)

Anti-PDL1 cancer immunotherapy – solid tumors

Indication	Solid tumors	Solid tumors	Solid tumors	Solid tumors
Phase/study	**Phase Ib**	**Phase I**	**Phase I**	**Phase I**
# of patients	N=305	N=762	N=151	N=300
Design	▪ Tecentriq in combination with RG6078[1] (IDO inhibitor), dose escalation and expansion cohorts	Dose escalation and expansion of RG7888 (OX40 MAb) + Tecentriq with or without Avastin ▪ **Part 1:** dose escalation ▪ **Part 2:** expansion	▪ **ARM A:** Dose-finding Tecentriq plus Cotellic ▪ **ARM B:** Dose-expansion Tecentriq plus Cotellic	▪ **Phase 1a:** Dose escalation and expansion MTIG7192A, RG6058 (TIGIT) ▪ **Phase 1b**: Dose escalation and expansion Tecentriq plus MTIG7192A, RG6058 (TIGIT)
Primary endpoint	▪ Safety and tolerability	▪ Safety	▪ Safety	▪ Safety, tolerability, PK variability and preliminary efficacy
Status	▪ FPI Q3 2015 ▪ Data to be presented at ASCO 2017	▪ FPI Q2 2015 ▪ Dose escalation data presented at ASCO 2016	▪ FPI Q4 2013 ▪ CRC cohort data presented at ASCO 2016, ESMO 2016	▪ FPI Q2 2016

[1] RG6078 in collaboration with NewLink Genetics

ASCO=American Society of Clinical Oncology; ESMO=European Society for Medical Oncology; CRC=colorectal carcinoma

Tecentriq (atezolizumab, RG7446)

Anti-PDL1 cancer immunotherapy – solid tumors

Indication	Locally advanced or metastatic solid tumors	CEA-positive solid tumors	Previously untreated metastatic melanoma BRAF mutation positive	Locally advanced or metastatic solid tumors
Phase/study	**Phase I**	**Phase Ib**	**Phase I**	**Phase I**
# of patients	N=200	N=100	N=67	N=660
Design	▪ **ARM A:** Tecentriq plus ipilimumab ▪ **ARM B:** Tecentriq plus interferon alpha-2b	▪ Tecentriq plus RG7802 (CEA CD3 TCB)	▪ Dose-finding study of Tecentriq + Zelboraf[1] and Tecentriq + Zelboraf[1] + Cotellic (MEK inhibitor)[2] combinations	▪ Dose escalation study
Primary endpoint	▪ Safety	▪ Safety, PK, PD, imaging, and biomarkers	▪ Safety and PK	▪ Safety and PK
Status	▪ FPI Q3 2014	▪ FPI Q1 2016 ▪ Data to be presented at ASCO 2017	▪ FPI Q4 2012 ▪ Zelboraf[1] combination data presented at SMR 2015	▪ FPI Q2 2011 ▪ Initial efficacy data presented at ASCO 2013 ▪ Data from bladder cohort presented at ASCO and ESMO 2014 ▪ Data from TNBC cohort presented at AACR 2015 ▪ Updated lung and bladder data presented at ASCO 2015 ▪ GBM data presented at SNO 2015

[1] Zelboraf in collaboration with Plexxikon, a member of Daiichi Sankyo Group; [2] Cotellic in collaboration with Exelixis
SMR=Society for Melanoma Research; ASCO=American Society of Clinical Oncology; ESMO=European Society for Medical Oncology; AACR=American Association for Cancer Research; SNO=Society for Neuro-Oncology; GBM=glioblastoma multiforme

Tecentriq (atezolizumab, RG7446)

Anti-PDL1 cancer immunotherapy – OC, BC

Indication	Front Line Ovarian Cancer	Previously untreated metastatic triple negative breast cancer	Metastatic breast cancer and locally advanced early breast cancer HER2-positive
Phase/study	**Phase III IMaGYN050**	**Phase III IMpassion130**	**Phase I**
# of patients	N=1300	N=900	N=66
Design	▪ **ARM A:** Tecentriq plus carboplatin + paclitaxel + Avastin ▪ **ARM B:** carboplatin + paclitaxel + Avastin	▪ **ARM A**: Tecentriq plus nab-paclitaxel ▪ **ARM B**: placebo plus nab-paclitaxel	▪ **Cohort 1A** (metastatic): Tecentriq + Perjeta +Herceptin ▪ **Cohort 1B** (metastatic): Tecentriq + Kadcyla ▪ **Cohort 2A** (neoadjuvant): Tecentriq + Perjeta + Herceptin followed by docetaxel + carboplatin + Perjeta + Herceptin ▪ **Cohort 2B** (neoadjuvant): Tecentriq + Kadcyla followed by docetaxel + carboplatin + Perjeta +Herceptin ▪ **Cohort 2C** (expansion on cohort 1B): Tecentriq + Kadcyla
Primary endpoint	▪ Progression-free survival and overall survival (co-primary endpoint)	▪ Progression-free survival and overall survival (co-primary endpoint)	▪ Safety
Status	▪ FPI Q1 2017	▪ FPI Q3 2015	▪ FPI Q4 2015

Tecentriq (atezolizumab, RG7446)

Anti-PDL1 cancer immunotherapy – hematology

Indication	Multiple myeloma	Myelodysplastic syndromes	Acute myelogenous leukemia (AML)
Phase/study	**Phase I**	**Phase I**	**Phase Ib**
# of patients	N~214	N=46	N=40
Design	▪ Tecentriq monotherapy ▪ Tecentriq + lenalidomide ▪ Tecentriq + daratumumab[1] ▪ Tecentriq + lenalidomide + daratumumab[1]	▪ Tecentriq monotherapy and azacitidine combination cohorts	▪ Tecentriq + guadecitabine (SGI-110)[2]
Primary endpoint	▪ Safety	▪ Safety	• Safety and efficacy
Status	▪ FPI Q3 2015 ▪ FPI daratumumab[1] cohorts Q3 2016	▪ FPI Q3 2015	• FPI Q4 2016

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

Tecentriq (atezolizumab, RG7446)

Anti-PDL1 cancer immunotherapy – hematology

Indication	1L FL and 1L DLBCL	Relapsed or refractory FL	Relapsed or refractory FL and DLBCL	Relapsed or refractory FL or DLBCL
Phase/study	**Phase I**	**Phase I**	**Phase I**	**Phase I/II**
# of patients	N=92	N=46	N=46	N=86
Design	▪ Tecentriq + Gazyva + bendamustine ▪ Tecentriq + Gazyva + CHOP	▪ Tecentriq + Gazyva + lenalidomide	▪ **Stage 1:** Safety evaluation Tecentriq plus Gazyva ▪ **Stage 2:** expansion Tecentriq plus Gazyva ▪ **Stage 3:** new cohort Tecentriq plus tazemetostat[1]	▪ **Dose escalation:** Tecentriq + Gazyva/Rituxan + polatuzumab vedotin[2] ▪ **Expansion:** Tecentriq + Gazyva/Rituxan + 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 Stage 3 Q1 2017	▪ FPI FL Q4 2016 ▪ Study amended to change from Gazyva to Rituxan for DLBCL ▪ FPI DLBCL Q1 2017

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

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 ▪ Data expected in 2017	▪ Breakthrough designation granted by US FDA Q2 2015, priority review granted, US approval Q2 2016 ▪ Approved in EU December 2016

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 CLL and SLL	Relapsed or refractory or previously untreated CLL	Relapsed or refractory or previously untreated CLL
Phase/study	**Phase II**	**Phase Ib**	**Phase Ib**	**Phase Ib**
# of patients	N=120	N=50	N=100	N=90
Design	▪ Venclexta after ibrutinib therapy ▪ Venclexta after idelalisib therapy	▪ Dose-escalation study in combination with MabThera/Rituxan	▪ 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	▪ Safety and maximum tolerated dose
Status	▪ FPI Q3 2014 ▪ Data presented at ASH 2015 ▪ Updated data presented at ASCO 2016	▪ Recruitment completed Q1 2015 ▪ Data presented at ASCO 2014 and EHA 2015 ▪ Updated data presented at ASH 2015 and ASCO 2016 ▪ Breakthrough designation granted by US FDA Q1 2016	▪ FPI Q2 2013 ▪ Data presented at ASH 2015	▪ FPI Q1 2014 ▪ Data presented at ASH 2015

Joint project with AbbVie, in collaboration with The Walter and Eliza Hall Institute
CLL=chronic lymphocytic leukemia; SLL=small lymphocytic lymphoma
ASH=American Society of Hematology; ASCO=American Society of Clinical Oncology; EHA=European hematology association

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 + R-CHOP ▪ **ARM B:** Venclexta + G-CHOP Phase II (expansion, patients with 1L DLBCL): ▪ Venclexta + 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

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 – NHL

Indication	Relapsed or refractory FL or DLBCL	Relapsed or Refractory NHL	Relapsed or refractory CLL and NHL
Phase/study	**Phase I/II**	**Phase I**	**Phase I**
# of patients	N=116	N=60	N=211
Design	▪ **Dose escalation cohort:** polatuzumab vedotin2 + Gazyva + Venclexta ▪ **Expansion cohort DLBCL:** polatuzumab vedotin2 + Gazyva + Venclexta ▪ **Expansion cohort FL:** polatuzumab vedotin2 + Gazyva + Venclexta	▪ Dose escalation of Venclexta in combination with Rituxan and bendamustine	Dose-escalation study ▪ **ARM A:** CLL and SLL patients ▪ **ARM B:** NHL patients
Primary endpoint	▪ Percentage of participants with CR	▪ Overall response rate	▪ Safety, PK, and response rate
Status	▪ FPI Q1 2016	▪ FPI Q2 2012 ▪ Study resumed Q3 2013 ▪ Data presented at ASCO 2015 ▪ Updated data presented at ASH 2015	▪ Updated CLL, SLL and NHL (DLBCL and FL) data presented at ASCO 2014 ▪ Arm A filed for r/r CLL indications Q4 2015 ▪ Updated data presented at ASCO 2016

Joint project with AbbVie, in collaboration with The Walter and Eliza Hall Institute; [2] polatuzumab vedotin in collaboration with Seattle Genetics
FL=follicular lymphoma; DLBCL=diffuse large B cell lymphoma; NHL=non-Hodgkin's lymphoma; CLL=chronic lymphocytic leukemia; SLL=small lymphocytic lymphoma; ASCO=American Society of Clinical Oncology; ASH=American Society of Hematology

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=30	N=84
Design	▪ **ARM A**: Venclexta + bortezomib + dexamethasone ▪ **ARM B**: Placebo + bortezomib + dexamethasone	Patients receiving bortezomib and dexamethasone as standard therapy: ▪ **Dose escalation cohort:** Venclexta + bortezomib + dexamethasone ▪ **Safety expansion cohort:** Venclexta + bortezomib + dexamethasone	▪ **Dose escalation cohort:** Venclexta dose escalation ▪ **Safety expansion cohort:** Venclexta expansion ▪ **Combination:** Venclexta + dexamethasone
Primary endpoint	▪ Progression-free survival	▪ Safety and maximum tolerated dose	▪ Safety and maximum tolerated dose
Status	▪ FPI July 2016	▪ 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

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 – AML

Indication	Acute myelogenous leukemia (AML)	Relapsed or refractory AML not eligible for cytotoxic therapy
Phase/study	**Phase II**	**Phase Ib/II**
# of patients	N=54	N=140
Design	▪ Dose escalation of Venclexta	Phase I (dose escalation): ▪ **ARM A:** Cotellic + Venclexta ▪ **ARM B:** idasanutlin + Venclexta Phase II (expansion): ▪ **ARM A:** Cotellic + Venclexta ▪ **ARM B:** idasanutlin + 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

Joint project with AbbVie, in collaboration with The Walter and Eliza Hall Institute
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 acute myelogenous leukemia (AML) not eligible for standard induction therapy		
Phase/study	**Phase Ib**	**Phase I/II**	**Phase III**
# of patients	N=160	N=65	N=40
Design	▪ Venclexta (dose escalation) + decitabine ▪ Venclexta (dose escalation) + azacitidine ▪ Venclexta (dose escalation) + decitabine + posaconazole	▪ Venclexta (dose escalation) + low-dose cytarabine	▪ **ARM A:** Venclexta + azacitidine ▪ **ARM B:** azacitidine
Primary endpoint	▪ Safety	▪ Safety, PK, PD and efficacy	▪ Percentage of participants with CR, Overall survival
Status	▪ FPI Q4 2014 ▪ Data presented at ASH 2015 ▪ Updated data presented at ASCO 2016	▪ FPI Q1 2015 ▪ Initial data presented at ASCO 2016 ▪ Updated data presented at ASH 2016	▪ FPI Q1 2017

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

Venclexta (venetoclax, RG7601, ABT-199)

Novel small molecule Bcl-2 selective inhibitor – MDS

Indication	Myelodysplastic syndromes (MDS) after HMA failure	Treatment-naive myelodysplastic syndromes (MDS)
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

Joint project with AbbVie, in collaboration with The Walter and Eliza Hall Institute
HMA=hypomethylating agent

Zelboraf

Selective small molecule inhibitor of mutant BRAF

Indication	Adjuvant therapy in patients with resected cutaneous BRAF mutation positive melanoma
Phase/study	**Phase III** **BRIM8**
# of patients	N=475
Design	52-week treatment ▪ **ARM A:** Zelboraf 960mg bid ▪ **ARM B:** Placebo
Primary endpoint	▪ Disease-free survival
Status	▪ Recruitment completed Q2 2015 ▪ Data expected in 2017

In collaboration with Plexxikon, a member of Daiichi Sankyo Group
See also combinations with Cotellic (MEK inhibitor) and Tecentriq (PD-L1 MAb)

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 2017	▪ Primary endpoint met Q2 2015 ▪ Data presented at ECTRIMS 2015 ▪ Updated data presented at AAN 2017 ▪ Filed globally in 2016 ▪ Approved in US March 2017	▪ Primary endpoint met Q3 2015 ▪ Data presented at ECTRIMS 2015 ▪ Updated data presented at AAN 2017

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 II** **faSScinate** Proof-of-concept study	**Phase III** **focuSSced**	**Phase III** **GiACTA**
# of patients	N=86	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	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 + 26 weeks prednisone taper ▪ **ARM B:** Actemra SC 162mg q2w + 26 weeks prednisone taper ▪ **ARM C:** Placebo+ 26 weeks prednisone taper ▪ **ARM D:** Placebo+ 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 24, Safety	▪ Change in modified Rodnan skin score (mRSS) at week 48	▪ Proportion of patients in sustained remission at week 52
Status	▪ 48 week data presented at EULAR 2015 ▪ Primary and all key secondary endpoints showed trend for improved efficacy ▪ BTD granted by US FDA Q1 2015 ▪ 96-week data presented at ACR 2016	▪ FPI Q4 2015 ▪ Recruitment completed Q1 2017	▪ Recruitment completed Q2 2015 ▪ Primary and key secondary endpoints met Q2 2016 ▪ BTD granted by US FDA Q3 2016 ▪ Data presented at ACR 2016 ▪ Filed globally Q4 2016; US FDA priority review granted Jan 2017

In collaboration with Chugai

EULAR=European League Against Rheumatism; ACR=American College of Rheumatology; BTD=Breakthrough Therapy Designation

Obinutuzumab (GA101, RG7159)

Immunology development program

Indication	Lupus nephritis	Hypersensitized adult participants with end-stage renal disease awaiting transplantation
Phase/study	**Phase II** **NOBILITY**	**Phase I**
# of patients	N=120	N=25
Design	▪ **ARM A:** obinutuzumab 1000mg IV plus mycophenolate mofetil ▪ **ARM B:** placebo IV plus mycophenolate mofetil	▪ **Cohort 1:** single dose of obinutuzumab ▪ **Cohort 2:** repeated doses of obinutuzumab
Primary endpoint	▪ Percentage of participants who achieve complete renal response (CRR)	▪ Safety
Status	▪ FPI Q4 2015	▪ FPI Q4 2015 ▪ Recruitment completed Q3 2016

In collaboration with Biogen

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 3 ranibizumab formulations delivered via implant
Primary endpoint	▪ Time to first refill
Status	▪ FPI Q3 2015

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 Q1 2017 sales

Diagnostics

Foreign exchange rate information

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

In collaboration with Chugai

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

Emicizumab (RG6013, ACE910)

Factor VIII mimetic for treatment of hemophilia A

Indication	Hemophilia A patients with inhibitors to factor VIII	Hemophilia A paediatric patients with inhibitors to factor VIII
Phase/study	**Phase III HAVEN 1**	**Phase III HAVEN 2**
# of patients	N=118	N=40-60
Design	Patients on episodic treatment prior to study entry: ▪ **Arm A:** episodic treatment + emicizumab prophylaxis ▪ **Arm B:** episodic treatment (no prophylaxis); switch to emicizumab prophylaxis possible after 24 weeks Patients on prophylactic treatment with bypassing agents prior to study entry: ▪ **Arm C:** emicizumab prophylaxis + episodic treatment Patients on episodic treatment previously on non-interventional study: ▪ **Arm D:** emicizumab prophylaxis + episodic treatment	Patients on prophylactic or episodic treatment prior to study entry: ▪ Emicizumab prohylaxis + episodic treatment
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	▪ FPI Q3 2016 ▪ Positive interim results in April 2017

In collaboration with Chugai

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**: emicizumab prophylaxis qw ▪ **Arm B**: emicizumab prophylaxis q2w ▪ **Arm C**: episodic FVIII treatment; switch to emicizumab prophylaxis possible after 24 weeks Patients on FVIII prophylaxis prior to study entry: ▪ **Arm D**: emicizumab prophylaxis qw	Multicenter, open-label, non- randomized study to assess the efficacy, safety, pharmacokinetics, and pharmacodynamics of emicizumab 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	▪ FPI Q1 2017

In collaboration with Chugai

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	1L triple-negative breast cancer	Neoadjuvant TNBC
Phase/study	**Phase III IPATENTIAL-150**	**Phase II A.MARTIN**	**Phase II JAGUAR**	**Phase II LOTUS**	**Phase II FAIRLANE**
# of patients	N=850	N=262	N=153	N=120	N=150
Design	▪ **ARM A:** ipatasertib + abiraterone ▪ **ARM B:** placebo + abiraterone	▪ **ARM A:** ipatasertib 400 mg + abiraterone ▪ **ARM B:** ipatasertib 200 mg + abiraterone ▪ **ARM C:** placebo + abiraterone	▪ **ARM A:** ipatasertib +mFOLFOX6 ▪ **ARM B:** placebo +mFOLFOX6	▪ **ARM A:** ipatasertib +paclitaxel ▪ **ARM B:** placebo + paclitaxel	▪ **ARM A:** ipatasertib + paclitaxel ▪ **ARM B:** placebo + paclitaxel
Primary endpoint	▪ Progression-free survival	▪ Progression-free survival	▪ Progression-free survival	▪ Progression-free survival	▪ Progression-free survival
Status	▪ FPI expected 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	▪ Recruitment completed Q1 2016	▪ FPI Q1 2015

In collaboration with Array BioPharma

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

Polatuzumab vedotin (RG7596)

ADC targeting CD79b to treat B cell malignancies

Indication	Non-Hodgkin's lymphoma	Non-Hodgkin's lymphoma 1L DLBCL	Relapsed or refractory FL and DLBCL
Phase/study	Phase II ROMULUS	Phase Ib/II	Phase Ib/II
# of patients	N=246	N=110	N=224
Design	▪ **Arm A:** pinatuzumab vedotin + Rituxan ▪ **Arm B:** polatuzumab vedotin + Rituxan ▪ **Arm C:** polatuzumab vedotin + Rituxan ▪ **Arms E, G, H:** polatuzumab vedotin + Gazyva	▪ **PhIb:** dose escalation ▪ **PhII:** polatuzumab vedotin in combination with Rituxan or Gazyva and CHP non-randomized	▪ **PIb:** dose escalation ▪ **PhII:** polatuzumab vedotin + BR vs. BR ▪ **PhII expansion:** polatuzumab vedotin + Gazyva, non-randomized
Primary endpoint	▪ Safety and anti-tumor activity	▪ Safety and response by PET/CT	▪ Safety and response by PET/CT
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 2013 ▪ Recruitment completed Q3 2016 ▪ Initial data presented at ASH 2015 ▪ Updated data presented at ASH 2016	▪ FPI Q4 2014 ▪ Recruitment completed Q3 2016 ▪ Updated data presented at ASH 2016

In collaboration with Seattle Genetics

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

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 + Gazyva + Venclexta ▪ **Expansion cohort DLBCL:** polatuzumab vedotin + Rituxan + Venclexta ▪ **Expansion cohort FL:** polatuzumab vedotin + Gazyva + Venclexta	▪ **Dose escalation cohort:** polatuzumab vedotin + Gazyva + lenalidomide ▪ **Expansion cohort DLBCL:** polatuzumab vedotin + Rituxan+ lenalidomide ▪ **Expansion cohort FL:** polatuzumab vedotin + Gazyva + lenalidomide	▪ **Dose escalation cohort:** polatuzumab vedotin + Gazyva + Tecentriq ▪ **Expansion cohort DLBCL:** polatuzumab vedotin + Rituxan+ Tecentriq ▪ **Expansion cohort FL:** polatuzumab vedotin + Gazyva + 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

In collaboration with Seattle Genetics;
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	Solid tumors and HER2-negative HR-positive breast cancer	HER2-negative HR-positive locally recurrent or metastatic breast cancer
Phase/study	**Phase III SANDPIPER**	**Phase II LORELEI**	**Phase I/II**	**Phase I**
# of patients	N=600	N=330	N=724	N=65
Design	▪ **ARM A**: taselisib plus fulvestrant ▪ **ARM B:** placebo plus fulvestrant	▪ **ARM A**: taselisib plus letrozole ▪ **ARM B:** placebo plus letozole	**Phase I:** ▪ taselisib ▪ taselisib plus letrozole or fulvestrant **Phase II:** ▪ taselisib (multiple doses) plus letrozole or fulvestrant	▪ taselisib plus docetaxel ▪ taselisib plus paclitaxel
Primary endpoint	▪ Progression-free survival	▪ Response rate and pCR	▪ Safety, PK and efficacy	▪ Safety
Status	▪ FPI Q2 2015	▪ Recruitment completed Q3 2016	▪ Recruitment completed Q2 2014 ▪ Updated data presented at SABCS 2014	▪ FPI Q2 2013

SABCS=San Antonio Breast Cancer Symposium; ER=estrogen receptor; HR=hormone receptor

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	▪ FPI Q1 2017

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

In collaboration with AC Immune

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

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=300
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 2017	▪ FPI Q4 2013 ▪ Recruitment completed Q1 2017

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	▪ FPI Q1 2014 ▪ Recruitment stopped Q4 2015 ▪ FPI Q1 2016 for open label extension

In collaboration with MorphoSys AG

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

Olesoxime (RG6083)

Mitochondrial-targeted neuroprotective small molecule

Indication	Spinal muscular atrophy Type 2 and 3	
Phase/study	**Phase II** Registrational study	**Open-label study**
# of patients	N=165	N=165
Design	▪ **ARM A:** olesoxime ▪ **ARM B:** placebo	▪ Olesoxime
Primary endpoint	▪ Motor function measure	▪ Motor function measure
Status	▪ Study completed Q4 2013 ▪ Presented at AAN 2014	▪ FPI Q4 2015 ▪ Recruitment completed Q1 2017
Collaborator	Trophos acquisition	

AAN=Annual Meeting of the American Academy of Neurology

Etrolizumab (RG7413)

Humanized monoclonal antibody 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 + adalimumab placebo SC ▪ **ARM B**: etrolizumab placebo SC + adalimumab SC ▪ **ARM C**: etrolizumab placebo SC + adalimumab placebo SC	▪ **ARM A**: etrolizumab 105mg SC q4w + adalimumab placebo SC ▪ **ARM B**: etrolizumab placebo SC + adalimumab SC ▪ **ARM C**: etrolizumab placebo SC + adalimumab placebo SC	Time on treatment 54 weeks ▪**ARM A**: etrolizumab 105mg SC q4w + placebo IV ▪**ARM B**: placebo SC q4w + 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

Etrolizumab (RG7413)

Humanized monoclonal antibody against beta 7 integrin

Indication	Ulcerative colitispatients 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
Phase/study	**Phase III** **LAUREL** Maintenance study	**Phase III** **HICKORY** Induction and maintenance study
# of patients	N=350	N=800
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
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
Status	▪ FPI Q3 2014	▪ FPI Q2 2014 ▪ First data presented at ECCO 2017

Etrolizumab (RG7413)

Humanized monoclonal antibody against beta 7 integrin

Indication	Moderate to severe ulcerative colitis	Moderate to severe ulcerative colitis
Phase/study	**Phase II** **SPRUCE** Open label extension study	**Phase III** **COTTONWOOD** Open label extension study
# of patients	N=116	N=2,600
Design	▪ Patients who were enrolled in the EUCALYPTUS study and meet recruitment criteria will receive etrolizumab 105 SC q4w	▪ Patients who were previously enrolled in etrolizumab phase III studies and meet Recruitment criteria will receive etrolizumab 105 SC q4w
Primary endpoint	▪ Safety	▪ Long-term efficacy as determined by partial Mayo Clinic Score (pMCS), incidence of adverse events
Status	▪ Recruitment completed	▪ FPI Q3 2014

Etrolizumab (RG7413)

Humanized monoclonal antibody 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 maintainance ▪ **ARM C**: placebo	▪ Etrolizumab SC 105mg q4w
Primary endpoint	▪ Induction and maintenance of clinical remission	▪ Safety
Status	▪ FPI Q1 2015	▪ FPI Q2 2015

Lebrikizumab (RG3637)

Humanized mAb binding specifically to IL-13

Indication	Idiopathic pulmonary fibrosis	Moderate to severe atopic dermatitis		Moderate to very severe COPD
Phase/study	**Phase II RIFF**	**Phase II TREBLE**	**Phase II ARBAN** Safety Study	**Phase II VALETA**
# of patients	N=480	N=200	N=50	N=300
Design	▪ **ARM A:** lebrikizumab SC q4w ▪ **ARM B:** placebo ▪ **ARM C:** lebrikizumab SC q4w + Esbriet ▪ **ARM D:** Esbriet	Patients on topical corticosteroids ▪ **ARM A:** lebrikizumab dose 1 ▪ **ARM B:** lebrikizumab dose 2 ▪ **ARM C:** lebrikizumab dose 3 ▪ **ARM D:** placebo	▪ **ARM A:** lebrikizumab ▪ **ARM B:** topical corticosteroids	Patients on background SOC during study ▪ **ARM A:** lebrikizumab SC q4w ▪ **ARM B:** placebo
Primary endpoint	▪ Change in FVC at week 52	▪ Percentage of patients achieving a 50% reduction in Eczema Area and Severity Index score (EASI-50) from baseline to week 12	▪ Safety comparison of lebrikizumab vs. TCS	▪ Week 12 change from baseline in pre-bronchodilator forced expiratory volume (FEV-1)
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	▪ Recruitment completed Q4 2015 ▪ Results Q1 2016 ▪ Data presented at EADV 2016	▪ Recruitment completed Q4 2015 ▪ Results Q1 2016	▪ Recruitment completed Q2 2016 ▪ Results Q1 2017 ▪ Study did not meet primary endpoint, no further development planned

COPD=chronic obstructive pulmonary disease; SOC=standard of care; EADV: European Academy of Dermatology and Venereology Congress

Lampalizumab (RG7417)

Selective anti-complement factor D mAb fragment

Indication	Geographic atrophy (GA) secondary to age-related macular degeneration			
Phase/study	**Phase III CHROMA**	**Phase III SPECTRI**	**Phase II**	**Phase III OMASPECT**
# of patients	N=936	N=936	N=90	N=1800
Design	▪ **ARM A:** lampalizumab 10mg q4w ▪ **ARM B:** lampalizumab 10mg q6w ▪ **ARM C:** placebo	▪ **ARM A:** lampalizumab 10mg q4w ▪ **ARM B:** lampalizumab 10mg q6w ▪ **ARM C:** placebo	▪ **ARM A:** lampalizumab 10mg q2w ▪ **ARM B:** lampalizumab 10mg q4w ▪ **ARM C:** placebo	▪ Open-label extension study to assess the long-term safety profile of lampalizumab. Enrolls participants from phase III studies CHROMA and SPECTRI
Primary endpoint	▪ Primary: change in GA area ▪ Secondary: change in BCVA and in additional measures of visual function	▪ Primary: change in GA area ▪ Secondary: change in BCVA and in additional measures of visual function	▪ Change in GA area	▪ Safety
Status	▪ FPI Q3 2014 ▪ Fast track designation received Q4 2014 ▪ Recruitment completed	▪ FPI Q3 2014 ▪ Fast track designation received Q4 2014 ▪ Recruitment completed	▪ FPI Q4 2014 ▪ Recruitment completed	▪ FPI Q3 2016

BCVA=best corrected visual acuity

Pipeline summary

Marketed products additional indications

Global Development late-stage trials

pRED (Roche Pharma Research & Early Development)

gRED (Genentech Research & Early Development)

Roche Group Q1 2017 sales

Diagnostics

Foreign exchange rate information

Oncology development programs
Small molecules

Molecule	Idasanutlin (MDM2 antagonist, RG7388)		
Indication	**Relapsed or refractory AML MIRROS**	**Relapsed or refractory FL and DLBCL**	**Relapsed or refractory AML not eligible for cytotoxic therapy**
Phase/study	**Phase III**	**Phase Ib/II**	**Phase I**
# of patients	N=440	N=120	N=140
Design	▪ **ARM A:** Idasanutlin plus cytarabine ▪ **ARM B:** placebo plus cytarabine	Dose escalation of idasanutlin plus Gazyva ▪ **ARM A:** Dose expansion of idasanutlin plus Gazyva in FL ▪ **ARM B:** Dose expansion of idasanutlin plus Gazyva in DLBCL	Phase I (dose escalation) ▪ **ARM A:** Cotellic plus Venclexta ▪ **ARM B:** idasanutlin plus Venclexta Phase II (expansion) ▪ **ARM A:** Cotellic plus Venclexta ▪ **ARM B:** idasanutlin plus Venclexta
Primary endpoint	▪ Overall survival	▪ Safety and efficacy	▪ Safety and efficacy
Status	▪ FPI Q4 2015	▪ FPI Q4 2015	▪ FPI Q1 2016

AML=acute myeloid leukemia; FL=follicular lymphoma; DLBCL=diffuse large B cell lymphoma

Oncology development programs
Small molecules

Molecule	LSD1 inhibitor (RG6016)	HIF1 alpha LNA (RG6061)
Indication	Extensive-stage small cell lung cancer	Hepatocellular carcinoma
Phase/study	Phase I	Phase I
# of patients	N=70	N=12
Design	▪ Multiple ascending dose-escalation study, monotherapy and in combination, with extension cohorts	▪ RG6061, starting dose of 13 mg/kg/week, 2-hour IV infusion every week in a 6-week cycle, after two loading doses in Week 1 of Cycle 1 on Day 1 and Day 4
Primary endpoint	▪ Safety, efficacy and PK	▪ Change from baseline to week 6 in HIF1 alpha mRNA level in tumor tissue
Status	▪ FPI Q4 2016	▪ FPI Q2 2016
	Oryzon Genomics SA	Santaris acquisition

LSD1=lysine specific demethylase-1; HIF1 alpha=hypoxia-inducible factor 1-alpha; LNA=locked nucleic acid

Oncology development programs
Small molecules

Molecule	BET inhibitor (RG6146, TEN-010)		
Indication	**Solid tumors**	**Acute myeloid leukemia**	**Multiple Myeloma**
Phase/study	**Phase I**	**Phase I**	**Phase Ib**
# of patients	N=100	N=36	N=86
Design	▪ Dose escalation and expansion study	▪ Dose escalation and cohort expansion study	Dose escalation and cohort expansion study: ▪ **Part 1:** RG6146 monotherapy ▪ **Part 2:** RG6146 in combination with daratumumab
Primary endpoint	▪ Safety and efficacy	▪ Safety and efficacy	▪ Safety and efficacy
Status	▪ FPI Q4 2013	▪ FPI Q4 2014	▪ FPI expected Q2 2017
Collaborator	Tensha acquisition		

BET=bromodomain and extraterminal

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=18-27
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 ongoing (Japan and Taiwan)
	Monotherapy development on hold		
Collaborator	Chugai		

ASCO=American Society of Clinical Oncology

Oncology development programs
Monoclonal antibodies

Molecule	Vanucizumab (ANG2-VEGF biMAb, RG7221)		
Indication	**Solid tumors**	**Metastatic colorectal cancer**	**Solid tumors**
Phase/study	**Phase I**	**Phase II McCAVE**	**Phase I**
# of patients	N≈160	N=192	N=170
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	▪ **ARM A**: Induction: Avastin+mFOLFOX-6; followed by maintenance: Avastin+5-FU/LV ▪ **ARM B**: Induction: RG7221+mFOLFOX-6; followed by maintenance: RG7221+5-FU/LV	▪ Vanucizumab in combination with RG7876 (CD40 MAb)
Primary endpoint	▪ Safety and PK	▪ Progression-free survival	▪ Safety, PD and efficacy
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	▪ Recruitment completed Q2 2016 ▪ Data in house Q3 2016	▪ FPI Q1 2016

ASCO=American Society of Clinical Oncology; ECC=European Cancer Congress; mFOLFOX6=modified FOLFOX (folinic acid, fluorouracil, oxaliplatin)

Oncology development programs
Monoclonal antibodies

Molecule	Emactuzumab (CSF-1R MAb, RG7155)		
Indication	**Solid tumors**		
Phase/study	**Phase I/II**	**Phase I**	**Phase I**
# of patients	N=216	N=162	N=146
Design	▪ Multiple ascending dose study ± paclitaxel with extension cohorts	RG7155 in combination with Tecentriq ▪ **Part 1:** dose escalation ▪ **Part 2:** expansion	Emactuzumab in combination with RG7876 (CD40 Mab) ▪ **Part 1:** dose escalation ▪ **Part 2:** expansion
Primary endpoint	▪ Safety, PK, PD and preliminary clinical activity	▪ Safety	▪ Safety, PK and PD
Status	▪ FPI Q4 2011 ▪ Biomarker data presented at AACR 2013 and 2014 ▪ Data presented at ASCO 2014 and 2015 ▪ Recruitment completed Q1 2016	▪ FPI Q1 2015	▪ FPI Q2 2016

AACR=American Association for Cancer Research; ASCO=American Society of Clinical Oncology

Oncology development programs
Monoclonal antibodies

Molecule	Cergutuzumab amunaleukin (CEA-IL2v, RG7813)		FAP-IL2v FP (RG7461)	
Indication	**Solid tumors**		**Solid tumors**	**1L renal call carcinoma**
Phase/study	**Phase I**	**Phase Ib**	**Phase I**	**Phase Ib**
# of patients	N=113	N=75	N=60	N=110
Design	▪ Single and multiple dose escalation study with extension cohorts	▪ **Part 1:** Dose escalation of RG7813 in combination with Tecentriq ▪ **Part 2:** Dose expansion RG7813 in combination with Tecentriq	Dose escalation study	**Part I:** Dose escalation ▪ Arm A: FAP-IL2v + Tecentriq; ▪ Arm B: FAP-IL2v + Tecentriq + Avastin **Part II:** Dose expansion ▪ Arm A: FAP-IL2v + Tecentriq; ▪ Arm B: FAP-IL2v + Tecentriq + Avastin
Primary endpoint	▪ Safety, PK and PD	▪ Safety, efficacy, PK and PD	▪ Safety, PK and PD	▪ Safety, PD and efficacy
Status	▪ Recruitment completed Q1 2016 ▪ Imaging data presented at ASCO 2015 ▪ Biomarker/imaging data presented at ECC 2015 ▪ Final imaging data presented at ESMO 2016	▪ FPI in Q2 2015	▪ FPI Q4 2015	▪ FPI Q1 2017

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

Oncology development programs
Monoclonal antibodies

Molecule	CEA CD3 T-cell bispecific (TCB) (RG7802)		CD20 CD3 TCB (RG6026)
Indication	**CEA-positive solid tumors**		**Relapsed or refractory B cell non-Hodgkin's lymphoma**
Phase/study	**Phase Ia**	**Phase Ib**	**Phase I**
# of patients	N≈300-350 (dose escalation, dose finding)	N≈200-250	N≈30 (+40+20)
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	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)
Primary endpoint	▪ Safety, Efficacy, PK and PD	▪ Safety, Efficacy, PK and PD	▪ Safety
Status	▪ FPI Q4 2014	▪ FPI Q1 2016 ▪ Data to be presented at ASCO 2017	▪ FPI Q1 2017

CEA=carcinoembryonic antigen; DLBCL=diffuse large B cell lymphoma; FL=follicular lymphoma

Oncology development programs
Monoclonal antibodies

Molecule	CD40 MAb (RG7876)		FAP-DR5 biMAB (RG7386)
Indication	**Solid tumors**	**Solid tumors**	**Solid tumors**
Phase/study	**Phase Ib**	**Phase I**	**Phase I**
# of patients	N=160	N=170	N=120
Design	▪ **Part I:** RG7876 single dose escalation in combination with Tecentriq ▪ **Part II:** RG7876 multiple doses, in combination with Tecentriq ▪ **Part III:** Indication specific extension	▪ RG7876 dose escalation in combination with vanucizumab (ANG2-VEGF biMAb)	▪ **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, PD and efficacy	▪ Safety, PD and efficacy	▪ Parts I and II – safety and tolerability ▪ Part III – antitumor activity
Status	▪ FPI Q4 2014	▪ FPI Q1 2016	▪ FPI Q3 2015

FAP=fibroblast-activation protein; DR5=death receptor-5

Neuroscience development programs

Roche pRED

Molecule	Basmisanil (GABRA5 NAM, RG1662)	
Indication	**Cognitive impairment associated with schizophrenia**	**Stroke recovery**
Phase/study	**Phase II**	**Phase II**
# of patients	N=180	N=80 (95 enrolled)
Design	For 24 weeks patients will receive: ▪ **ARM A**: RG1662 80mg twice daily ▪ **ARM B**: RG1662 240mg twice daily ▪ **ARM C**: Placebo	Starting on day 5-7 post-stroke, patients will receive treatment for 90 days. ▪ **ARM A**: RG1662 240mg twice daily ▪ **ARM B**: Placebo
Primary endpoint	▪ Efficacy (cognitive function), PK, safety and tolerability	▪ PK, PD, safety and tolerability
Status	▪ FPI Q4 2016	▪ FPI Q1 2017

Neuroscience development programs

Roche pRED

Molecule	NME (RG7906)	PDE10A inhibitor (RG7203)
Indication	Psychiatric disorders	Schizophrenia
Phase/study	Phase I	Phase I
# of patients	N=148	N=46
Design	▪ **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	▪ Multicenter, randomized, double-blind, placebo-controlled, crossover study to evaluate the effects of RG7203 in participants with mild to moderate negative symptoms of schizophrenia treated with antipsychotics.
Primary endpoint	▪ Safety, tolerability, PK and PD	▪ Safety, tolerability, PK and PD
Status	▪ FPI Q1 2016 ▪ Part 1 completed, Part 2 on going	▪ FPI Q2 2016

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
	Orphan drug designation granted by US FDA Q1 2017	
Collaborator	PTC Therapeutics, SMA Foundation	

SMN2=survival of motor neuron 2; WMS=World Muscle Society

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 US FDA Q1 2017	
Collaborator	PTC Therapeutics, SMA Foundation	

Neuroscience development programs

Autism

Molecule	V1a receptor antagonist (RG7314)	
Indication	Autism	
Phase/study	**Phase II VANILLA**	**Phase II AVIATION**
# of patients	N=223	N=300
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
Primary endpoint	▪ Safety and efficacy	▪ Safety and efficacy
Status	▪ FPI Q3 2013	▪ FPI Q4 2016

Neuroscience development programs

Parkinson's disease

Molecule	Anti-αSynuclein (RG7935, PRX002)		
Indication	**Parkinson's disease**		
Phase/study	**Phase II PASADENA**	**Phase I**	**Phase Ib**
# of patients	N=300	N=40	N=80
Design	▪ Randomized, double-blind, placebo-controlled study to evaluate the efficacy of RG7935/PRX002 in participants with early Parkinson's disease	▪ Double-blind, placebo-controlled, single, ascending dose study of RG7935/PRX002 in healthy subjects	▪ Double-blind, placebo-controlled, multiple ascending dose study of RG7935/PRX002 in patients with Parkinson's disease
Primary endpoint	▪ Change from baseline in Movement Disorder Society-Unified Parkinson's Disease Rating Scale (MDS-UPDRS)	▪ Safety, tolerability and PK	▪ Safety, tolerability and PK
Status	▪ FPI expected Q2 2017	▪ Study completed Q1 2015 ▪ Data presented at MDS 2015	▪ Study completed Q4 2016 ▪ Data presented at AD/PD 2017
Collaborator	Prothena		

MDS=Movement Disorder Society; AD/PD=Alzheimer's & Parkinson's Diseases Congress

Infectious diseases development programs

Molecule	Nacubactam (DBO beta lactamase inhibitor, RG6080, OP0595)	
Indication	Infectious diseases	
Phase/study	Phase I	Phase I
# of patients	N=56	N=32
Design	▪ Randomized, double-blind, placebo-controlled, multiple-ascending dose (MAD) study in healthy volunteers with nacubactam monotherapy and in combination with meropenem	Open-label, two-part study: ▪ **Part 1:** Adults with stable mild, moderate or severe renal impairment and a control group of participants with normal renal function ▪ **Part 2:** Adults with stable end-stage renal disease undergoing hemodialysis
Primary endpoint	▪ Safety, PK	▪ Safety, PK
Status	▪ FPI Q4 2016 ▪ Study completed	▪ FPI Q4 2016
Collaborator	Meiji and Fedora	

DBO=diazabicyclooctane

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

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

Ophthalmology development programs

Molecule	VEGF-Ang2 biMAb (VA2) (RG7716)		
Indication	**Wet age-related macular degeneration**		**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:** 6 mg 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:** 6 mg 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

BCVA=best corrected visual acuity; SOC=standard of care; VEGF=vascular endothelial growth factor; Ang2=angiopoietin 2

Immunology development programs

Roche pRED

Molecule	Cathepsin S inhibitor (CAT-S inh) (RG7625)		Cadherin 11 MAb (RG6125)	C5 inh MAb (RG6107, SKY59)
Indication	**Primary Sjögren's syndrome**	**Celiac disease**	**Rheumatoid Arthritis**	**Paroxysmal nocturnal hemoglobinuria (PNH)**
Phase/study	**Phase II**	**Phase I**	**Phase IIa/b**	**Phase I/II**
# of patients	N=70	N=19	N≈250	N=74
Design	▪ **ARM A**: RG7625 ▪ **ARM B**: placebo	▪ **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	▪ An adaptive, SAD study in healthy volunteers followed by an intra-patient SAD in treatment naïve and an multiple dose study in pretreated patients with PNH
Primary endpoint	▪ Percentage of participants with a clinically relevant decrease in European League Against Rheumatism (EULAR) Sjögren's Syndrome Disease Activity Index (ESSDAI) Score	▪ Overall numbers of participants who are responders to the gluten challenge	▪ Overall numbers of participants who are responders to the gluten challenge	▪ Safety, PK and PD
Status	▪ FPI Q3 2016 ▪ Recruitment completed April 2017	▪ FPI Q1 2016 ▪ Recruitment completed Q3 2016	▪ FPI Q4 2016	▪ FPI Q4 2016
Collaborator				Chugai

SAD=single ascending dose

Pipeline summary

Marketed products additional indications

Global Development late-stage trials

pRED (Roche Pharma Research & Early Development)

gRED (Genentech Research & Early Development)

Roche Group Q1 2017 sales

Diagnostics

Foreign exchange rate information

Oncology development programs
Monoclonal antibodies

gRED Genentech Research & Early Development

Molecule	OX40 MAb (RG7888, MOXR0916)		
Indication	**Solid tumors**	**Solid tumors**	**Metastatic urothelial carcinoma**
Phase/study	**Phase I**	**Phase I**	**Phase II**
# of patients	N=400	N=762	N=225
Design	▪ Dose escalation and expansion study of RG7888	▪ Dose escalation and expansion of RG7888 + Tecentriq with or without Avastin	▪ **ARM A:** RG7888 + Tecentriq ▪ **ARM B:** Placebo + Tecentriq
Primary endpoint	▪ Safety	▪ Safety	▪ Progression-free survival and overall survival
Status	▪ FPI Q3 2014 ▪ Dose escalation data presented at AACR 2016	▪ FPI Q2 2015 ▪ Dose escalation data presented at ASCO 2016 ▪ FPI Avastin cohort Q3 2016	▪ FPI expected Q2 2017

Oncology

AACR=American Association for Cancer Research; ASCO=American Society of Clinical Oncology

Oncology development programs
Monoclonal antibodies

gRED Genentech Research & Early Development

Molecule	CD20/CD3 TDB (RG7828)	Anti-TIGIT (RG6058, MTIG7192A)
Indication	Hematologic tumors	Solid tumors
Phase/study	Phase I	Phase I
# of patients	N=170	N=300
Design	▪ Dose escalation and expansion	▪ Dose escalation and expansion as single agent and in combination with Tecentriq
Primary endpoint	▪ Safety, PK and PD	▪ Safety, PK and PD
Status	▪ FPI Q3 2015	▪ FPI Q2 2016

TDB=T cell–dependent bispecific; TIGIT=T cell immunoglobulin and ITIM domain protein

Oncology development programs
Antibody–drug conjugates

gRED Genentech Research & Early Development

Molecule	Anti-MUC16 TDC (RG7882)	NME ADC (RG7986)
Indication	**Platinum-resistant ovarian cancer or unresectable pancreatic cancer**	**Relapsed or refractory B cell non-Hodgkin's lymphoma**
Phase/study	**Phase I**	**Phase I**
# of patients	N=95	N=80
Design	▪ Dose escalation and expansion study	▪ Dose escalation and expansion
Primary endpoint	▪ Safety and PK	▪ Safety and PK
Status	▪ FPI Q2 2014 ▪ Data presented at AACR 2017	▪ FPI Q3 2015
Collaborator	Seattle Genetics	

AACR=American Association for Cancer Research

Oncology development programs
Small molecules

gRED Genentech Research & Early Development

Molecule	IDO inhibitor (RG6078, GDC-0919, NLG919)		ChK1 inhibitor (RG7741, GDC-0575)
Indication	**Solid tumors**	**Solid tumors**	**Solid tumors**
Phase/study	**Phase I**	**Phase Ib**	**Phase I**
# of patients	N=35	N=305	N=112
Design	▪ Dose escalation study	▪ Dose escalation and expansion study of RG6078 and Tecentriq combination	▪ **Stage 1:** Dose escalation ▪ **Stage 2:** Cohort expansion
Primary endpoint	▪ Safety	▪ Safety and tolerability	▪ Safety and PK
Status	▪ FPI Q1 2014 ▪ Safety and PK/PD data presented at ECC 2015	▪ FPI Q3 2015 ▪ Data to be presented at ASCO 2017	▪ FPI Q2 2012
Collaborator	NewLink Genetics		Array BioPharma

ECC=European Cancer Congress, IDO=indoleamine 2, 3-dioxygenase; ChK1=checkpoint kinase 1

Oncology development programs
Small molecules

gRED Genentech Research & Early Development

Molecule	SERD (2) (RG6047, GDC-0927/SRN-927)	PI3K inhibitor (RG6114, GDC-0077)
Indication	**Metastatic ER+ HER2-neg. breast cancer**	**PIK3CA mutant solid tumors and metastatic ER+ HER2- breast cancer**
Phase/study	**Phase I**	**Phase Ib**
# of patients	N=90	N=156
Design	▪ Dose escalation and expansion at recommended phase II dose (RP2D)	Monotherapy and in combination with SOC (letrozole; letrozole + palbociclib; fulvestrant) ▪ **Stage 1:** dose escalation ▪ **Stage 2:** expansion
Primary endpoint	▪ Safety	▪ Safety, tolerability and PK
Status	▪ FPI Q1 2015	▪ FPI Q4 2016 ▪ Data presented at AACR 2017
Collaborator	Seragon acquisition	

AACR=American Association for Cancer Research;
SERD=selective estrogen receptor degrader; PI3K=phosphatidylinositol 3-kinase

Neuroscience development programs

gRED Genentech Research & Early Development

Molecule	Nav1.7 (2) (RG6029, GDC-0310)	DLK inhibitor (RG6000, GDC-0134)	Anti-Tau (RG6100)
Indication	**Pain**	**Amyotrophic lateral sclerosis**	**Prodromal to mild Alzheimer's disease**
Phase/study	**Phase I**	**Phase I**	**Phase I**
# of patients	N=95	N=72	N=71
Design	▪ Randomized, placebo-controlled, double-blind study in healthy volunteers	▪ Randomized, double-blind, placebo-controlled, multicenter, single and multiple ascending dose study	▪ Randomized, double-blind, placebo-controlled, single-center single ascending dose (healthy volunteers) and multiple dose study (healthy volunteers and Alzheimer's patients)
Primary endpoint	▪ Safety, tolerability and PK of single and multiple doses	▪ Safety, tolerability, and PK of single and multiple doses	▪ Safety, tolerability and PK of single doses and multiple doses
Status	▪ FPI Q3 2015	▪ FPI Q2 2016	▪ FPI Q2 2016
Collaborator	Xenon Pharmaceuticals Inc.		AC Immune

Immunology development programs

gRED 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	▪ Repeat 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

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
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**
Phase/study	**Phase II**	**Phase II**
# of patients	N=580	N=240
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:** Drug: Placebo
Primary endpoint	▪ ACR 50 and safety	▪ Systemic Lupus Erythematosus Responder Index (SRI)-4 response at Week 48
Status	▪ FPI Q3 2016	▪ FPI Q1 2017

BTK=Bruton's tyrosine kinase

Infectious diseases development programs

gRED Genentech Research & Early Development

Molecule	Flu A MAb (RG7745, MHAA4549A)		Anti-*S. aureus* TAC (RG7861)
Indication	**Influenza A**	**Acute uncomplicated seasonal influenza A**	**Serious infections caused by *Staphylococcus aureus***
Phase/study	**Phase IIb**	**Phase II**	**Phase Ia**
# of patients	N≈330	N=141	N=30
Design	Hospitalized patients requiring oxygen with severe influenza A ▪ **ARM A:** RG7745 (high dose) + Tamiflu ▪ **ARM B**: RG7745 (low dose) + Tamiflu ▪ **ARM C**: placebo + Tamiflu	▪ **ARM A:** RG7745 dose level 1 ▪ **ARM B**: RG7745 dose level 2 ▪ **ARM C:** placebo	▪ Healthy volunteer study
Primary endpoint	▪ Safety and efficacy (time to normalization of respiratory function)	▪ Safety	▪ Safety
Status	▪ FPI Q1 2015 ▪ FPI high dose cohort Q3 2016	▪ FPI Q1 2016	▪ FPI Q4 2015 ▪ Study completed
Collaborator			Seattle Genetics and Symphogen

TAC=THIOMAB™ antibiotic conjugate

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

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 Q1 2017 sales

Diagnostics

Foreign exchange rate information

Q1 2017: Geographical sales split by divisions and Group*

CHFm	Q1 2016	Q1 2017	% change CER
Pharmaceuticals Division	**9,800**	**10,177**	**+3**
United States	4,716	5,070	**+6**
Europe	2,319	2,273	**+1**
Japan	853	856	**-2**
International	1,912	1,978	**+1**
Diagnostics Division	**2,614**	**2,765**	**+6**
United States	641	664	**+3**
Europe	945	946	**+3**
Japan	95	102	**+4**
International	933	1,053	**+11**
Group	**12,414**	**12,942**	**+4**
United States	5,357	5,734	**+6**
Europe	3,264	3,219	**+2**
Japan	948	958	**-2**
International	2,845	3,031	**+4**

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

Pharma Division sales Q1 2017

Top 20 products

	Global		US		Europe		Japan		International	
	CHFm	% CER	CHFm	% CER	CHFm	% CER	CHFm	% CER	CHFm	% CER
MabThera	1,899	4	1,045	6	465	1	62	-3	327	4
Herceptin	1,756	2	680	3	522	3	67	-4	487	0
Avastin	1,684	-2	765	-2	446	-3	181	-8	292	7
Perjeta	524	19	257	14	176	21	26	7	65	47
Actemra	445	15	177	21	147	17	64	4	57	7
Xolair	437	22	437	22	-	-	-	-	-	-
Lucentis	392	9	392	9	-	-	-	-	-	-
TNKase / Activase	316	13	305	14	-	-	-	-	11	0
Tamiflu	270	-27	156	-39	13	-30	65	5	36	-4
Kadcyla	222	11	89	11	84	5	16	-9	33	49
Tarceva	211	-19	109	-21	37	-22	22	-4	43	-18
Esbriet	202	13	153	19	42	-2	-	-	7	10
Pulmozyme	175	9	125	10	32	10	-	-	18	3
CellCept	170	-10	33	-26	43	3	17	9	77	-11
Mircera	115	-4	-	-	22	3	43	-6	50	-5
Tecentriq	113	-	109	-	2	-	-	-	2	-
Xeloda	104	-7	6	30	6	-28	25	-3	67	-8
Madopar	86	18	-	-	23	0	4	-2	59	30
NeoRecormon / Epogin	77	-3	-	-	32	-8	10	-6	35	4
Rocephin	74	-9	-	-	13	-3	6	-15	55	-10

CER = Constant Exchange Rates (avg full year 2016)

Pharma Division sales Q1 2017

Recently launched products

	Global		US		Europe		Japan		International	
	CHFm	% CER	CHFm	% CER	CHFm	% CER	CHFm	% CER	CHFm	% CER
Gazyva	67	48	38	27	17	59	-	-	12	160
Alecensa	68	124	36	244	1	-	29	50	2	-
Cotellic	14	37	4	87	9	5	-	-	1	-
Tecentriq	113	-	109	-	2	-	-	-	2	-

CER = Constant Exchange Rates (avg full year 2016)

Pharma Division CER sales growth[1] in %

Global top 20 products

	Q1/16	Q2/16	Q3/16	Q4/16	Q1/17
MabThera	3	5	0	2	4
Herceptin	4	5	4	0	2
Avastin	4	4	-3	-4	-2
Perjeta	33	35	24	14	19
Actemra	14	21	15	14	15
Xolair	22	17	13	8	22
Lucentis	-13	-10	-1	-14	9
TNKase / Activase	21	17	12	15	13
Tamiflu	-6	5	-23	72	-27
Kadcyla	11	10	5	2	11
Tarceva	-14	-17	-18	-11	-19
Esbriet	96	24	35	10	13
Pulmozyme	7	10	0	1	9
CellCept	-4	-5	-5	-10	-10
Mircera	0	7	-16	23	-4
Tecentriq	-	-	-	-	-
Xeloda	-17	-5	-6	18	-7
Madopar	20	-4	4	6	18
NeoRecormon / Epogin	-14	-8	-7	-7	-3
Rocephin	5	18	18	-9	-9

CER = Constant Exchange Rates
[1] Q1-Q4/16 vs. Q1-Q4/15; Q1/17 vs. Q1/16

Pharma Division CER sales growth[1] in %

Top 20 products by region

	US				Europe				Japan				International			
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
MabThera	6	-3	3	6	5	4	-1	1	12	9	11	-3	3	0	3	4
Herceptin	6	0	1	3	3	4	-2	3	4	2	7	-4	8	10	1	0
Avastin	0	-9	-10	-2	4	-1	-4	-3	-2	-6	-5	-8	18	14	13	7
Perjeta	16	8	1	14	56	42	22	21	10	4	17	7	121	78	50	47
Actemra	23	13	11	21	21	18	14	17	13	10	14	4	23	18	22	7
Xolair	17	13	8	22	-	-	-	-	-	-	-	-	-	-	-	-
Lucentis	-10	-1	-14	9	-	-	-	-	-	-	-	-	-	-	-	-
TNKase / Activase	18	12	16	14	-	-	-	-	-	-	-	-	3	12	-10	0
Tamiflu	-45	-39	16	-39	*	*	*	-30	*	*	243	5	9	-24	20	-4
Kadcyla	7	-1	-2	11	2	1	-6	5	20	4	4	-9	53	44	38	49
Tarceva	-17	-16	-8	-21	-27	-19	-25	-22	3	-9	4	-4	-15	-27	-11	-18
Esbriet	32	38	19	19	9	33	-4	-2	-	-	-	-	-8	-17	-43	10
Pulmozyme	7	0	-4	10	5	10	6	10	4	-28	5	-	38	-12	17	3
CellCept	-18	-13	-31	-26	2	-1	-4	3	16	12	14	9	-4	-4	-4	-11
Mircera	-	-	-	-	-2	0	4	3	2	-1	3	-6	18	-29	70	-5
Tecentriq	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xeloda	-24	-21	312	30	-17	-23	-30	-28	16	8	4	-3	-6	-6	-16	-8
Madopar	-	-	-	-	2	2	5	0	-2	-6	-5	-2	-7	6	7	30
NeoRecormon / Epogin	-	-	-	-	-11	-7	-8	-8	-12	-16	-6	-6	-5	-5	-7	4
Rocephin	-	-	-	-	-13	2	26	-3	-19	-11	-7	-15	30	22	-15	-10

CER = Constant Exchange Rates

* over 500%

[1] Q2-Q4/16 vs. Q2-Q4/15; Q1/17 vs Q1/16

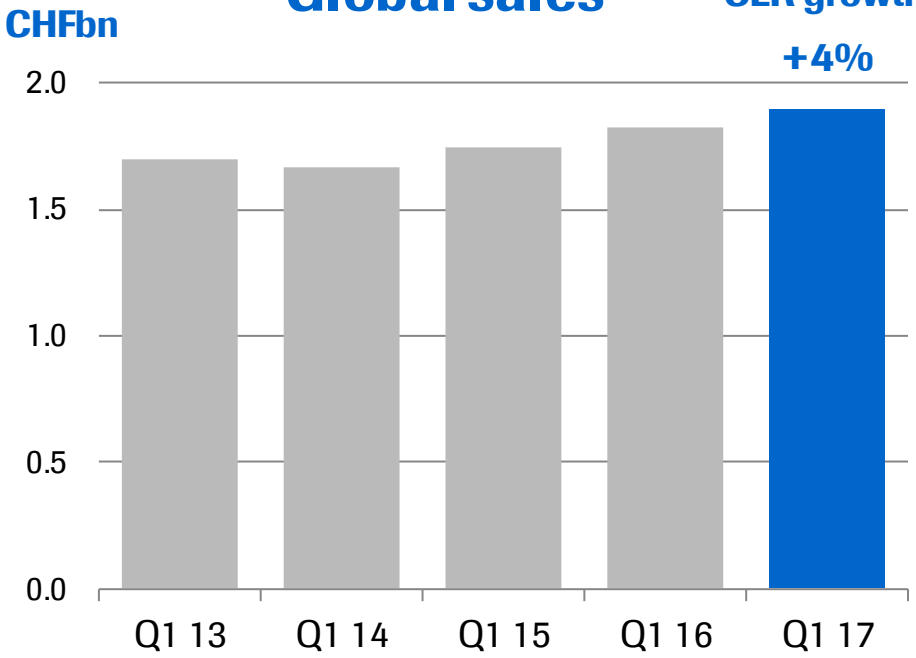
CER sales growth (%)
Quarterly development

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

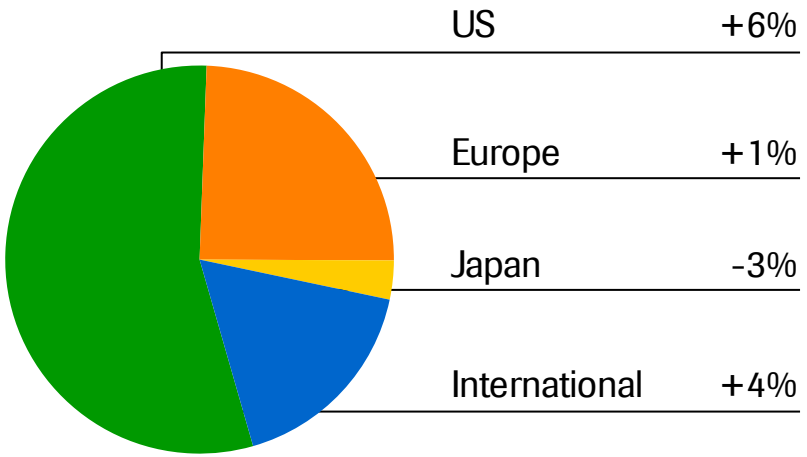
CER=Constant Exchange Rates

MabThera/Rituxan

Global sales



Regional sales



Q1 2017 sales of CHF 1,899m

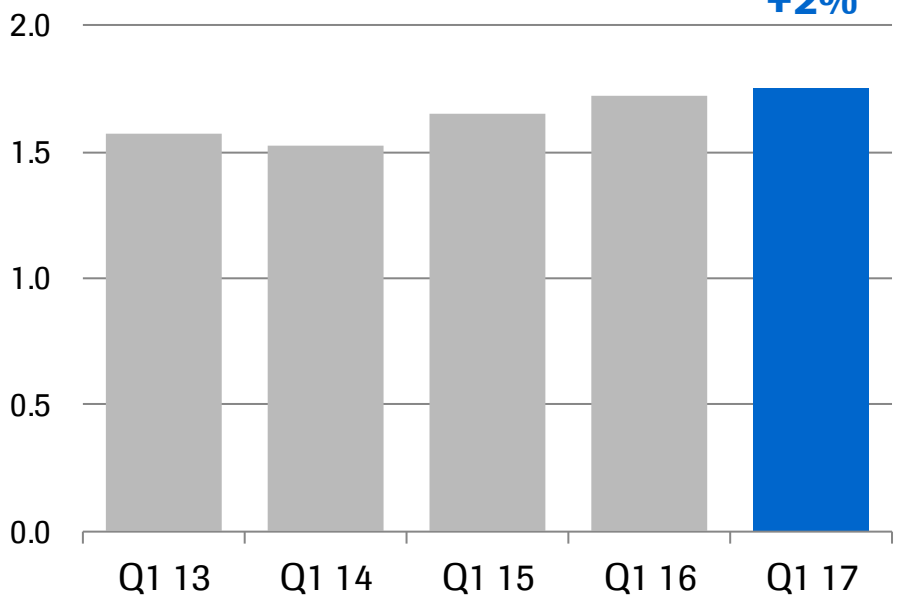
- Immunology sales grew +7% (driven by the US in 2L RA and GPA/MPA)
- Oncology sales grew +3% driven by US, EU and APAC
- International: Growth driven by China in DLBCL (aNHL)
- Japan: Weaker sales after strong Q4

CER=Constant Exchange Rates; RA=rheumatoid artheritis; GPA=granulomatosis with polyangiitis; MPA=microscopic polyangiitis; DLBCL=diffuse large B cell lymphoma; aNHL=agressive non-hodgkin`s lymphoma

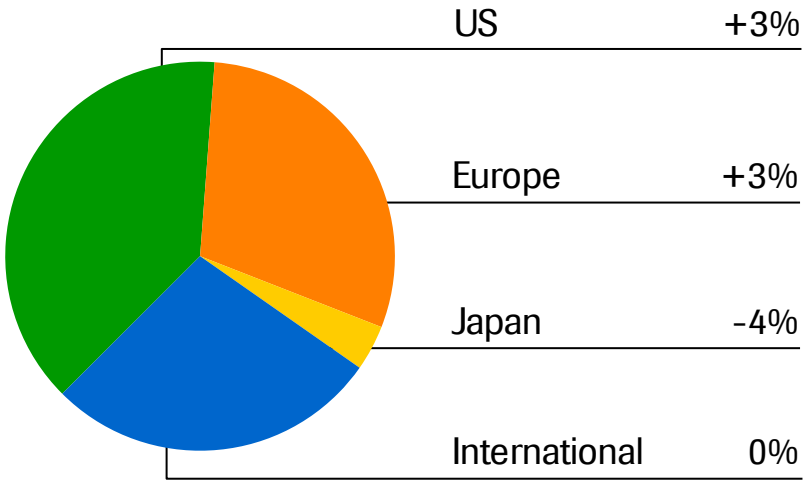
Herceptin

Global sales

CHFbn



Regional sales



Q1 2017 sales of CHF 1,756m

- US: Strong volume growth impacted by channel inventory management
- EU: Strong volume momentum due to prolonged treatment duration in 1L mBC

CER=Constant Exchange Rates

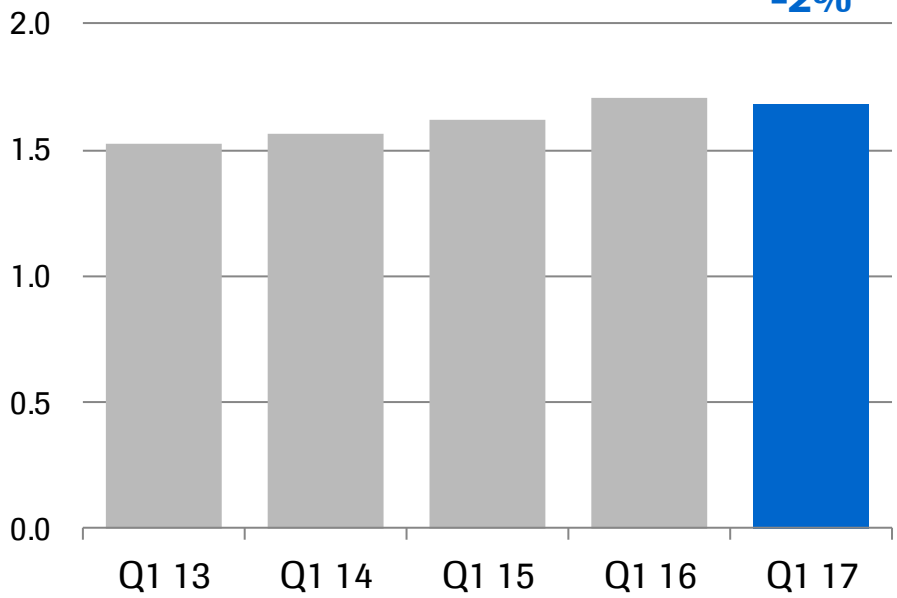
Avastin

Global sales

CHFbn

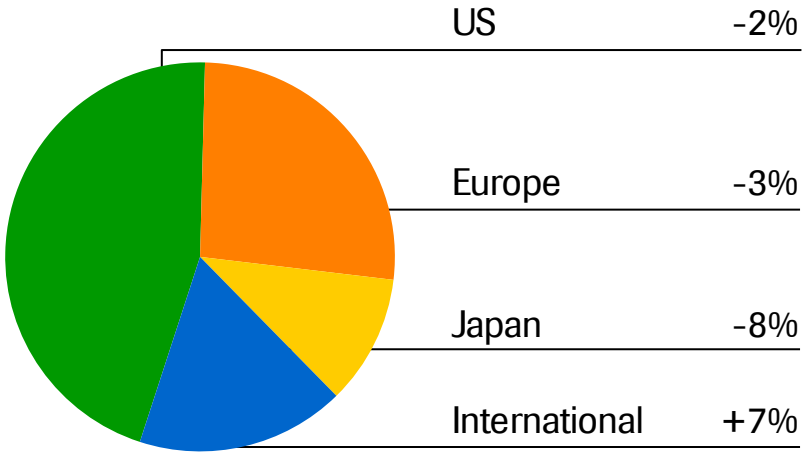
CER growth

-2%



Regional sales

CER growth



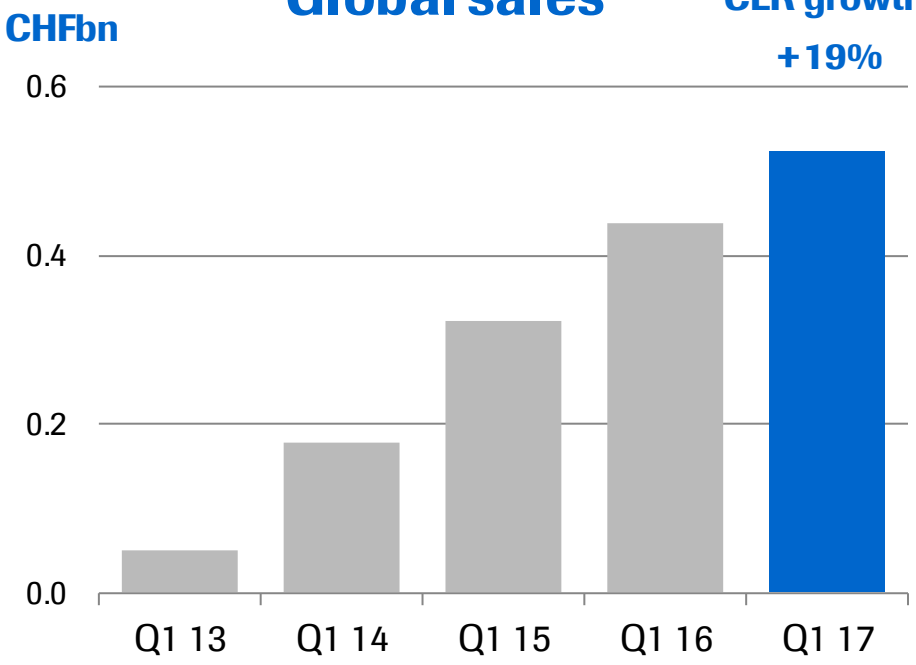
Q1 2017 sales of CHF 1,684m

- US: Sales decline due to cancer immunotherapy competition in 1/2L lung
- 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
- Japan: Base effect from price cuts upfront of the -11% price cut from April 1rst 2016

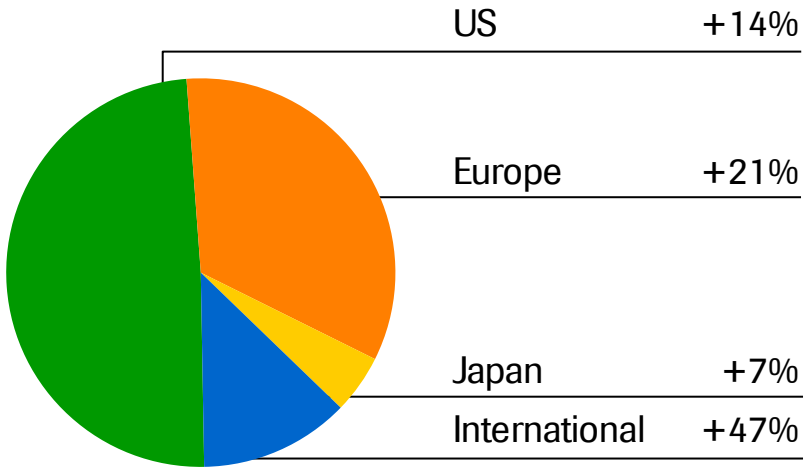
CER=Constant Exchange Rates

Perjeta

Global sales



Regional sales



Q1 2017 sales of CHF 524m

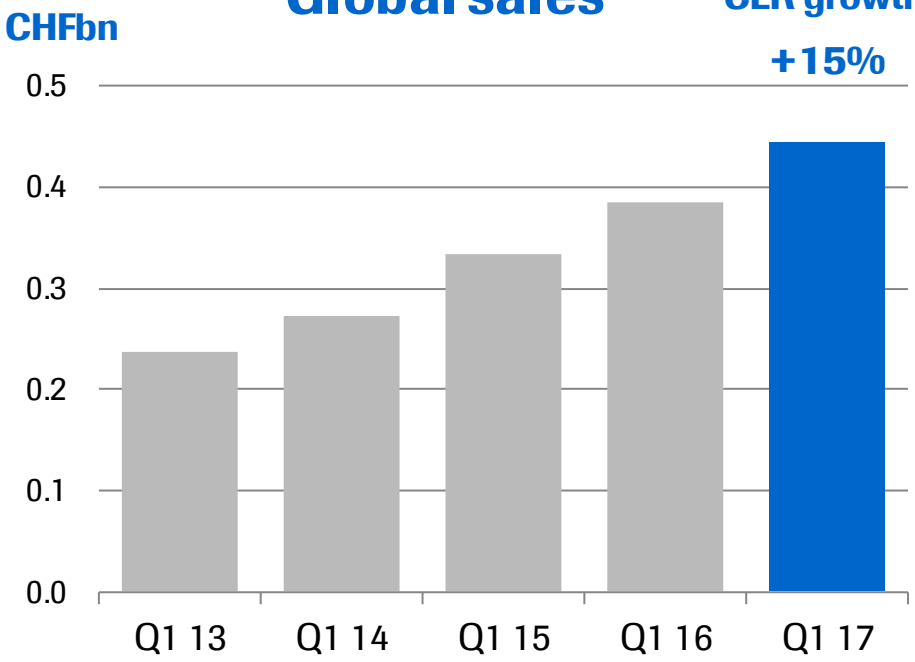
- US: Growth driven by 1L mBC and neoadjuvant
- EU: Growth driven by neoadjuvant and 1L mBC in all key markets
- International: Strong growth in all region

CER=Constant Exchange Rates

Actemra/RoActemra

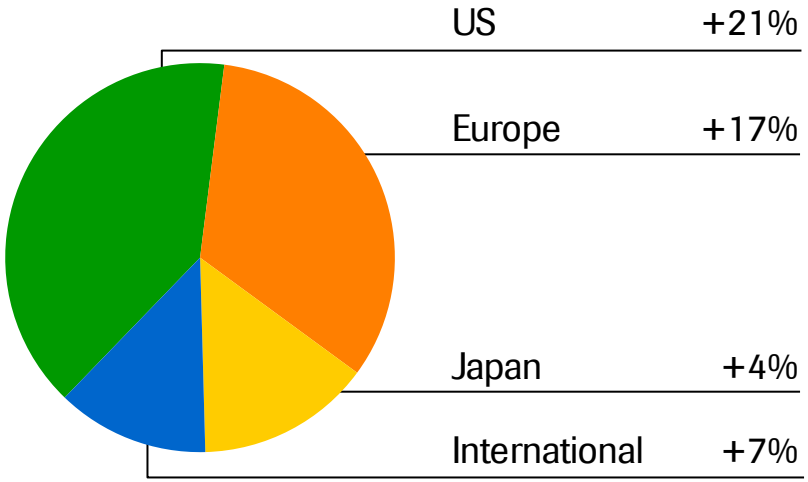
Global sales

CER growth +15%



Regional sales

CER growth



Q1 2017 sales of CHF 445m

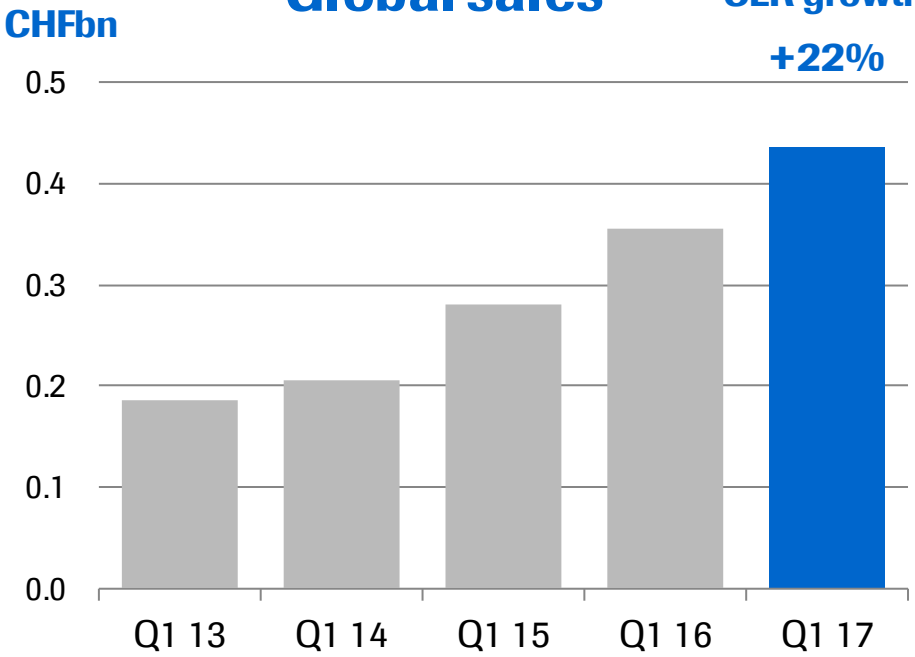
- US: Growth driven by continued SC uptake
- EU: Growth driven by monotherapy market share gains, including 1L monotherapy
- International: Growth driven by LATAM and APAC

CER=Constant Exchange Rates

Xolair

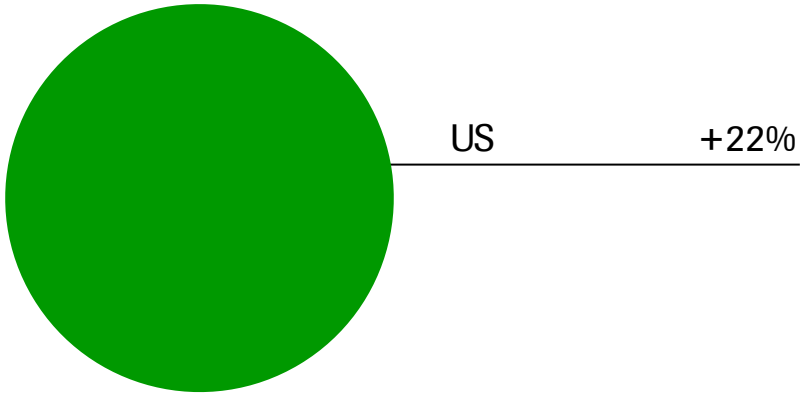
Global sales

CER growth +22%



Regional sales

CER growth



Q1 2017 sales of CHF 437m

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

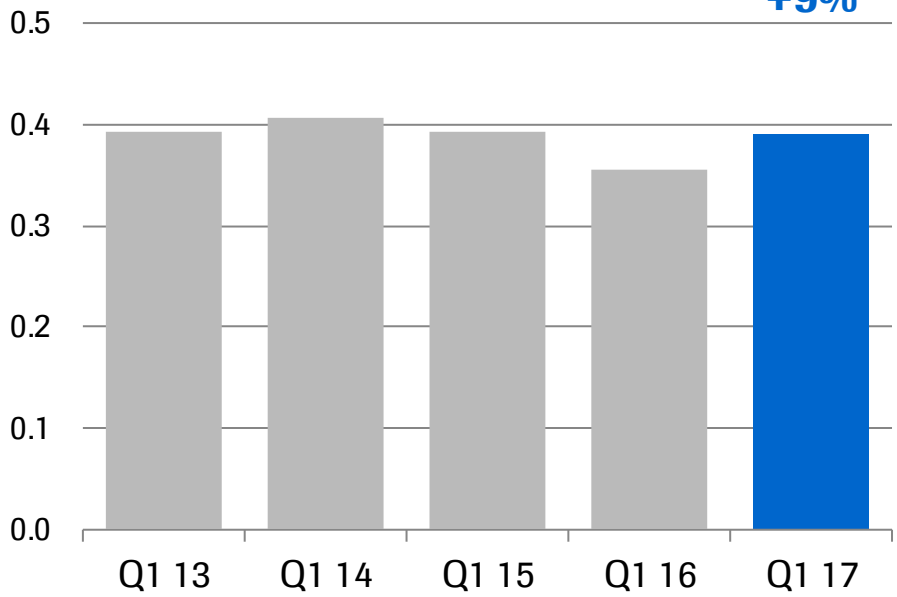
CER=Constant Exchange Rates

Lucentis

Global sales

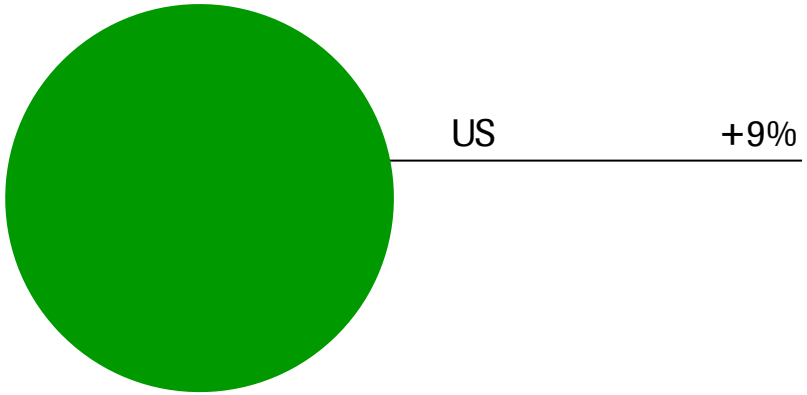
CHFbn

CER growth +9%



Regional sales

CER growth



Q1 2017 sales of CHF 392m

- In-class competition slows down (patient shares stabilised in wAMD and DME)
- Q1: First prefilled syringe launched for wAMD and macular edema after retinal vain oclusion
- Q1: First-in-class launches in mCNV and DR w/o DME on-going

CER=Constant Exchange Rates; wAMD=wet age-related macular degeneration; DME=diabetic macular edema; mCNV=myopic choroidal neovascularisation; DR w/o DME= diabetic retinopathy independent of DME

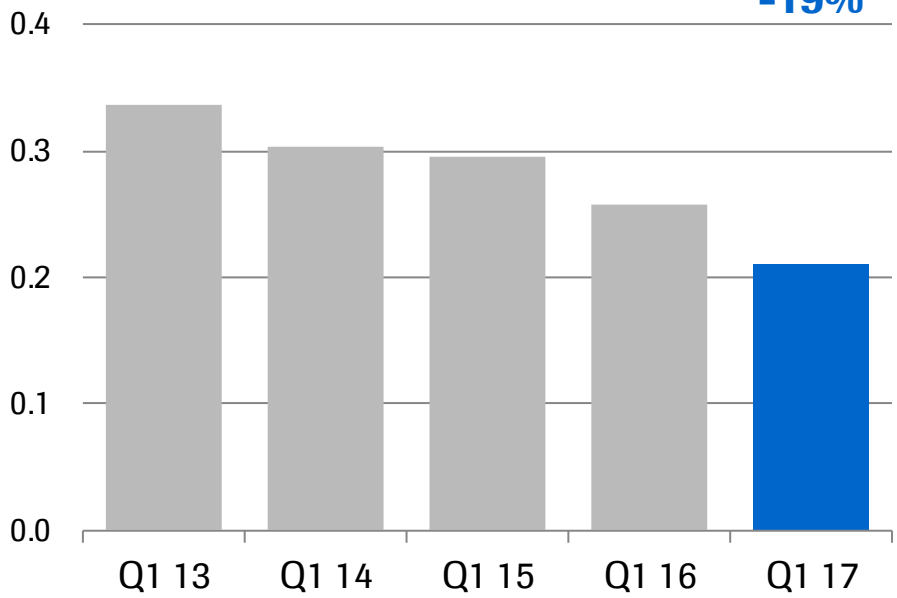
Tarceva

Global sales

CHFbn

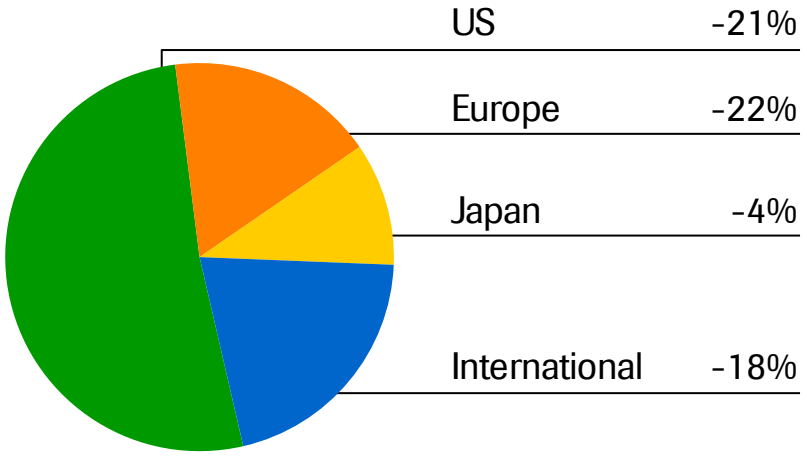
CER growth

-19%



Regional sales

CER growth



Q1 2017 sales of CHF 211m

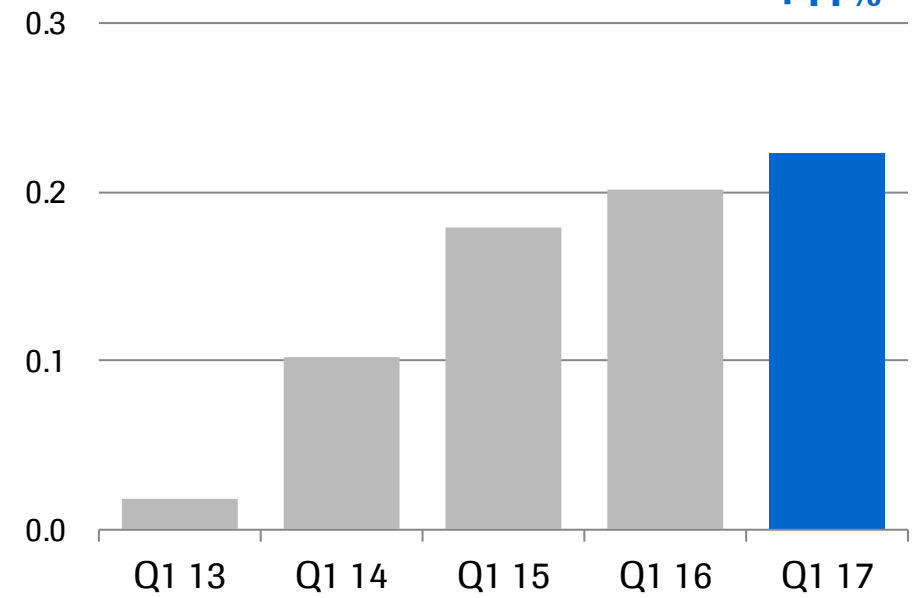
- Sales decline in all regions
- Continued decline due to in-class competition (1L EGFR Mut+ NSCLC and 2/3L EGFR WT NSCLC) and out-of-class competition from immunotherapies (2L WT NSCLC)

CER=Constant Exchange Rates

Kadcyla

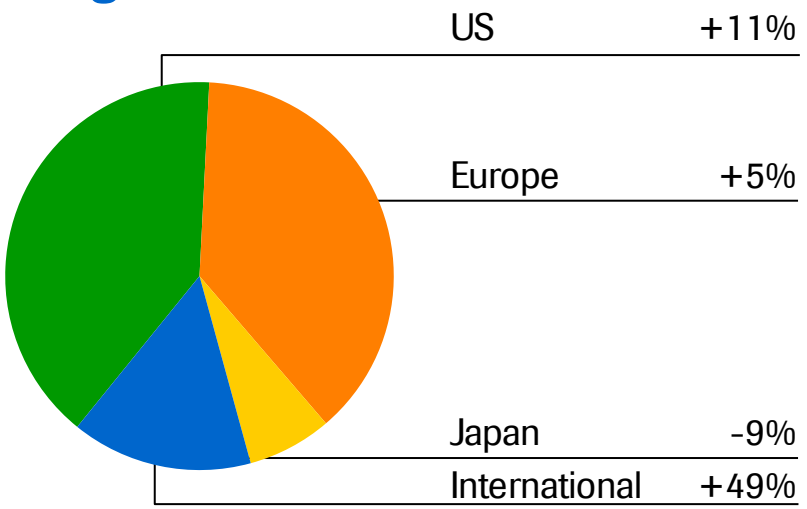
Global sales

CER growth +11%



Regional sales

CER growth



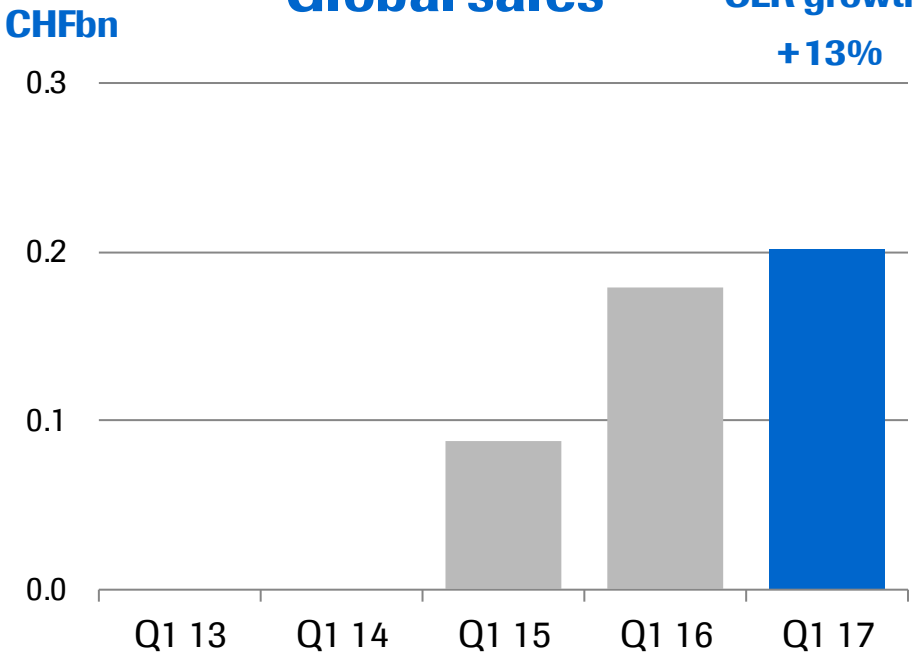
Q1 2017 sales of CHF 222m

- Patient shares in 2L mBC around 60% in the US and EU
- Japan: Increased use of Perjeta in later lines
- International: Growth driven by all regions

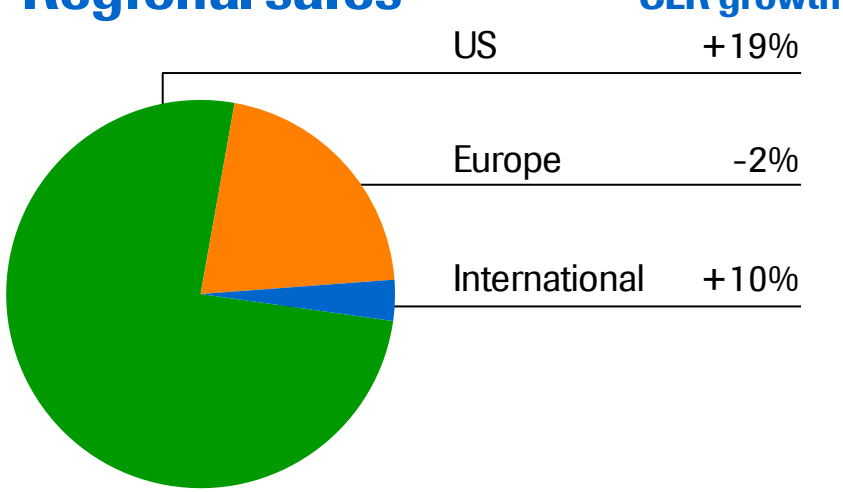
CER=Constant Exchange Rates

Esbriet

Global sales



Regional sales

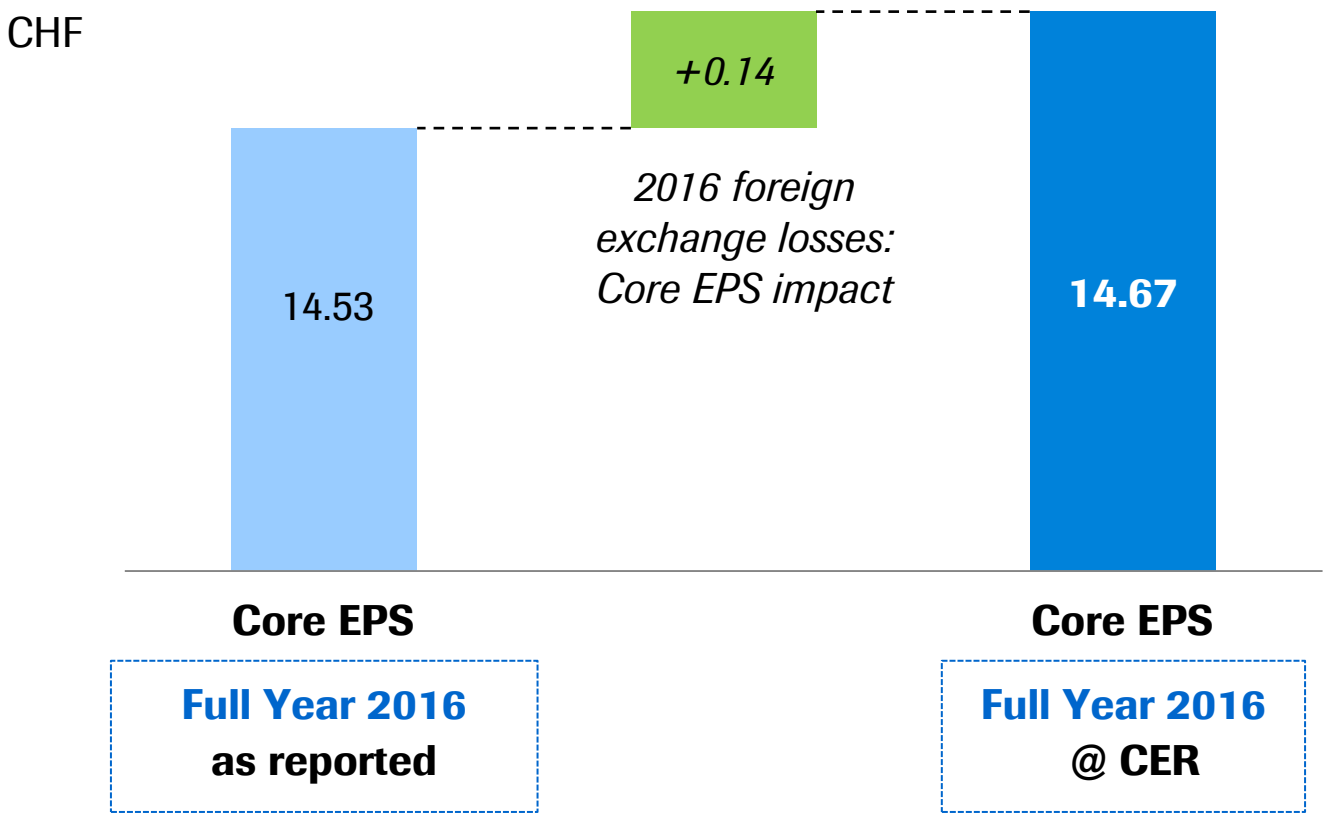


Q1 2017 sales of CHF 202m

- US: Growth driven by continued penetration in severe and moderate patients
- EU: Increased competition; Overall market leadership in EU5 markets maintained
- Steady growth expected targeting mild and moderate patients in the US and EU

CER=Constant Exchange Rates

FY 2016: Core EPS base for FY 2017 guidance



CER = Constant Exchange Rates (avg full year 2016)

FY 2016: Core EPS base for FY 2017 guidance

	Full Year 2016 as reported		Full Year 2016 @ CER
Core net income attributable to Roche shareholders (CHFm)	12,507		12,507
Add back fx losses	-		+124
Deduct tax effect on fx losses	-		-8m
Equals Core net income attributable to Roche shareholders used to calculate diluted EPS	12,507		12,623
Divide by number of diluted shares (millions)	860		860
Equals diluted Core EPS (CHF)	**14.53**	**+0.14**	**14.67**

CER = Constant Exchange Rates (avg full year 2016)

Pipeline summary

Marketed products additional indications

Global Development late-stage trials

pRED (Roche Pharma Research & Early Development)

gRED (Genentech Research & Early Development)

Roche Group Q1 2017 sales

Diagnostics

Foreign exchange rate information

Q1 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	1,641	9	367	4	624	3	650	18
Diabetes Care	447	1	49	0	282	0	116	3
Molecular Diagnostics	441	-2	181	-2	161	-2	99	0
Tissue Diagnostics	236	15	143	13	59	16	34	17
Diagnostics Division	**2,765**	**6**	**740**	**4**	**1,126**	**2**	**899**	**14**

CER=Constant Exchange Rates

[1] Europe, Middle East and Africa

Diagnostics Division quarterly sales and CER growth[1]

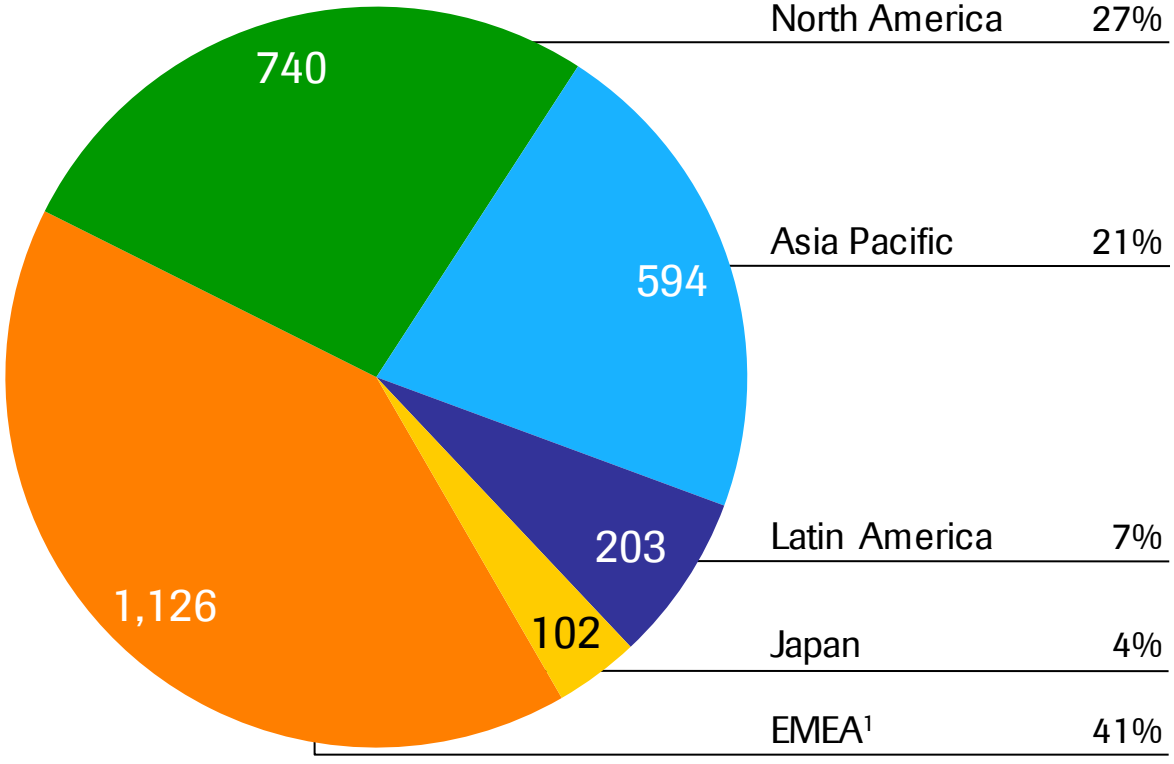
	Q4 15		Q1 16		Q2 16		Q3 16		Q4 16		Q1 17	
	CHFm	% CER	CHFm	% CER	CHFm	% CER	CHFm	% CER	CHFm	% CER	CHFm	% CER
Centralised and Point of Care Solutions	1,688	9	1,519	7	1,714	11	1,651	9	1,814	9	1,641	9
Diabetes Care	595	-3	443	-11	555	1	486	3	532	-9	447	1
Molecular Diagnostics	471	9	446	11	457	5	442	6	500	6	441	-2
Tissue Diagnostics	225	10	206	13	222	11	224	15	262	16	236	15
Dia Division	**2,979**	**7**	**2,614**	**5**	**2,948**	**8**	**2,803**	**8**	**3,108**	**5**	**2,765**	**6**

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

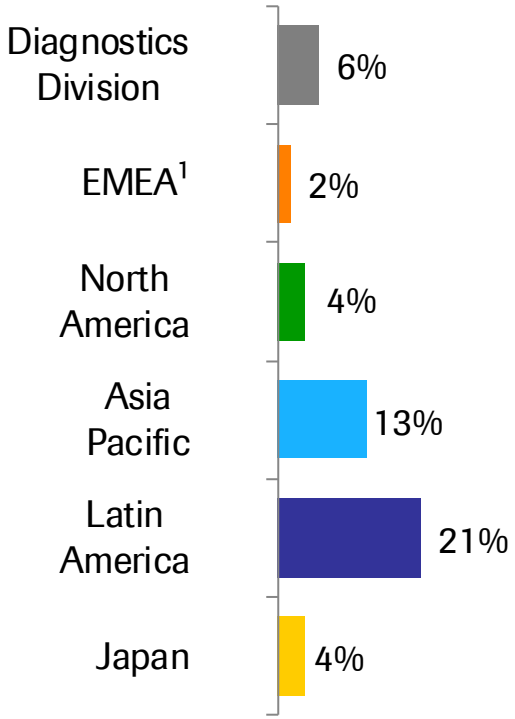
Q1 2017: Diagnostics Division sales

Growth driven by Asia Pacific

CHF 2,765 m



CER sales growth



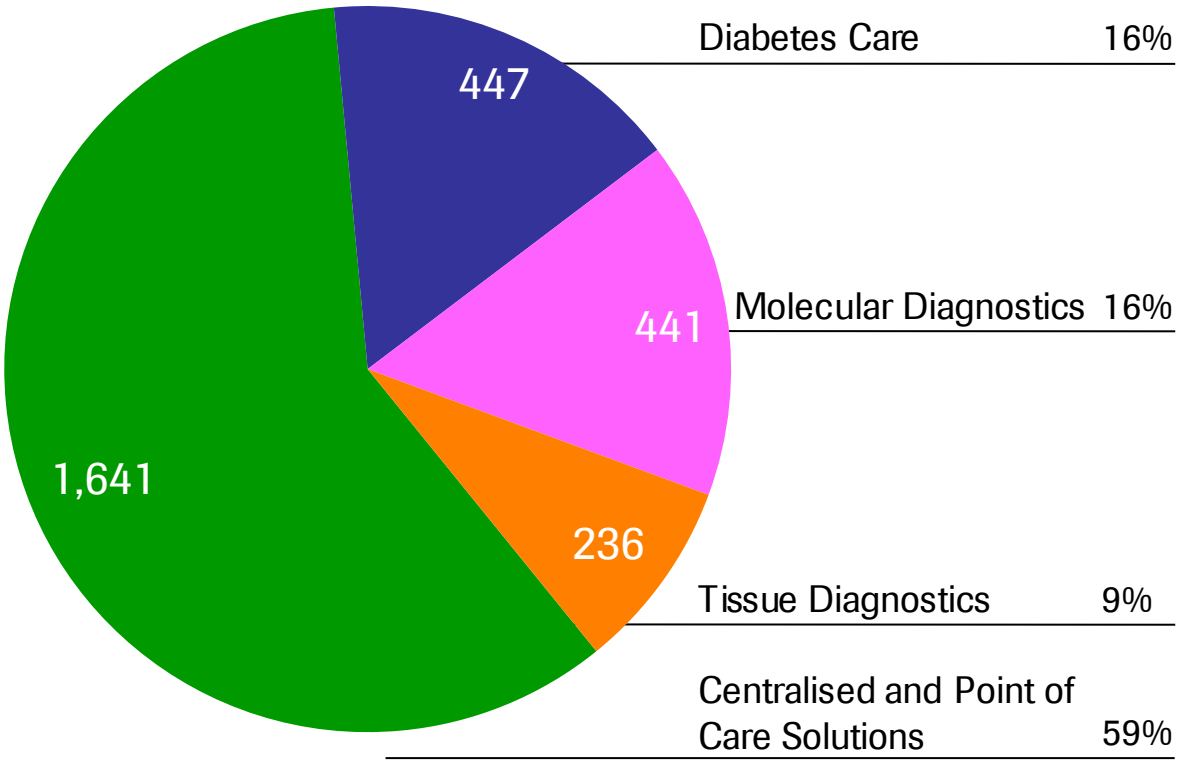
CER=Constant Exchange Rates

[1] Europe, Middle East and Africa

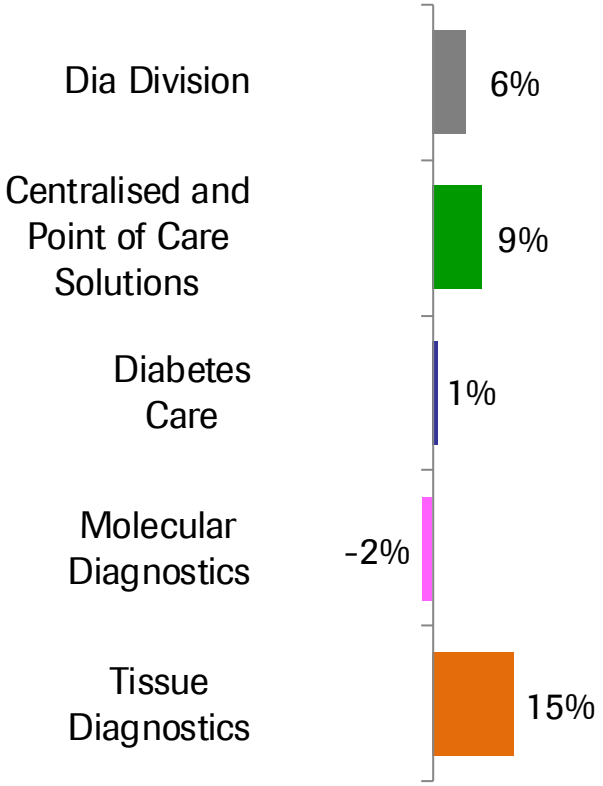
Q1 2017: Diagnostics Division sales

Growth driven by Centralised and Point of Care solutions

CHF 2,765 m

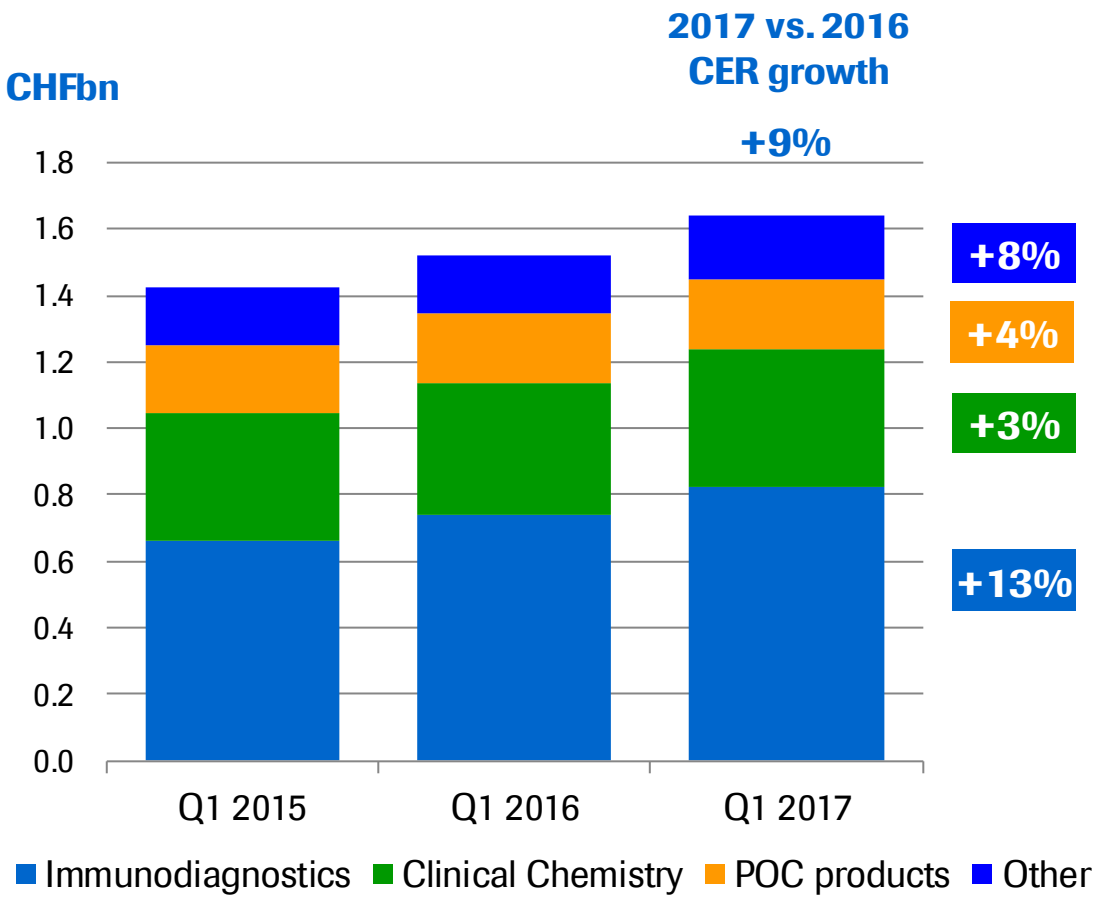


CER sales growth



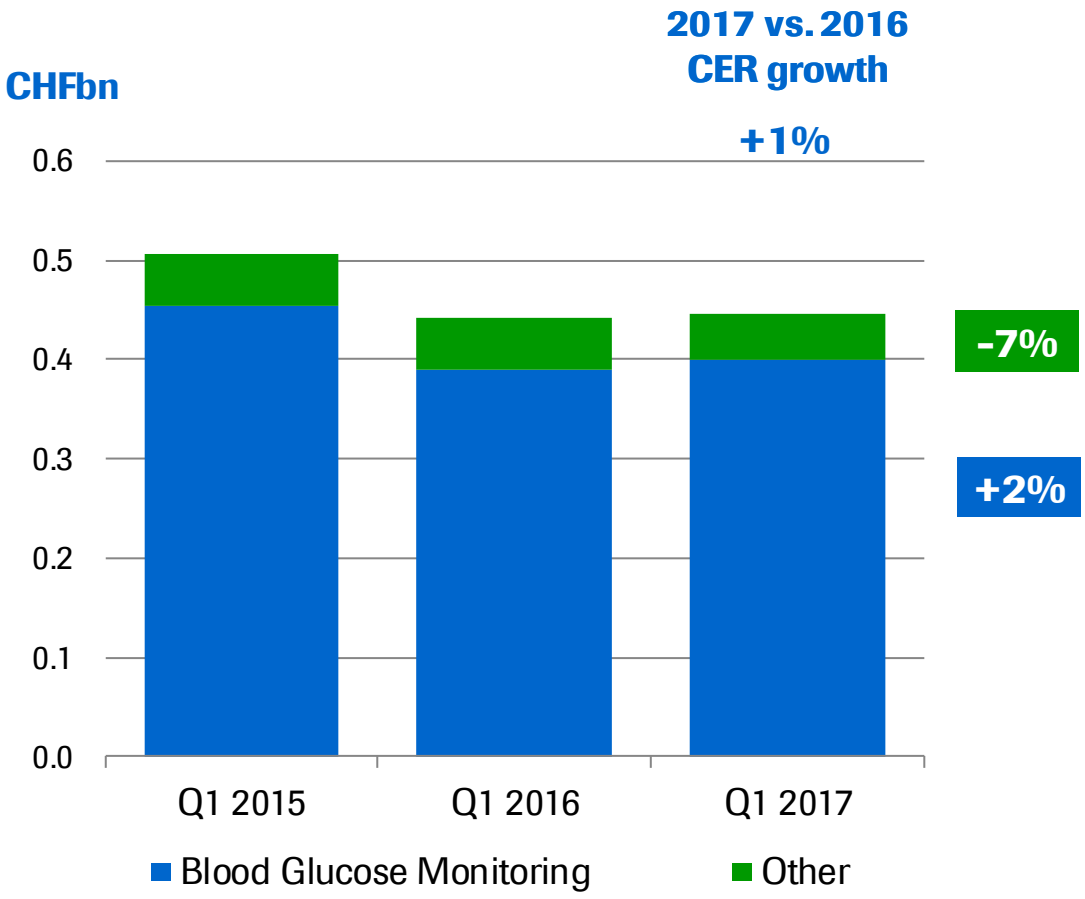
CER=Constant Exchange Rates

Centralised and Point of Care Solutions



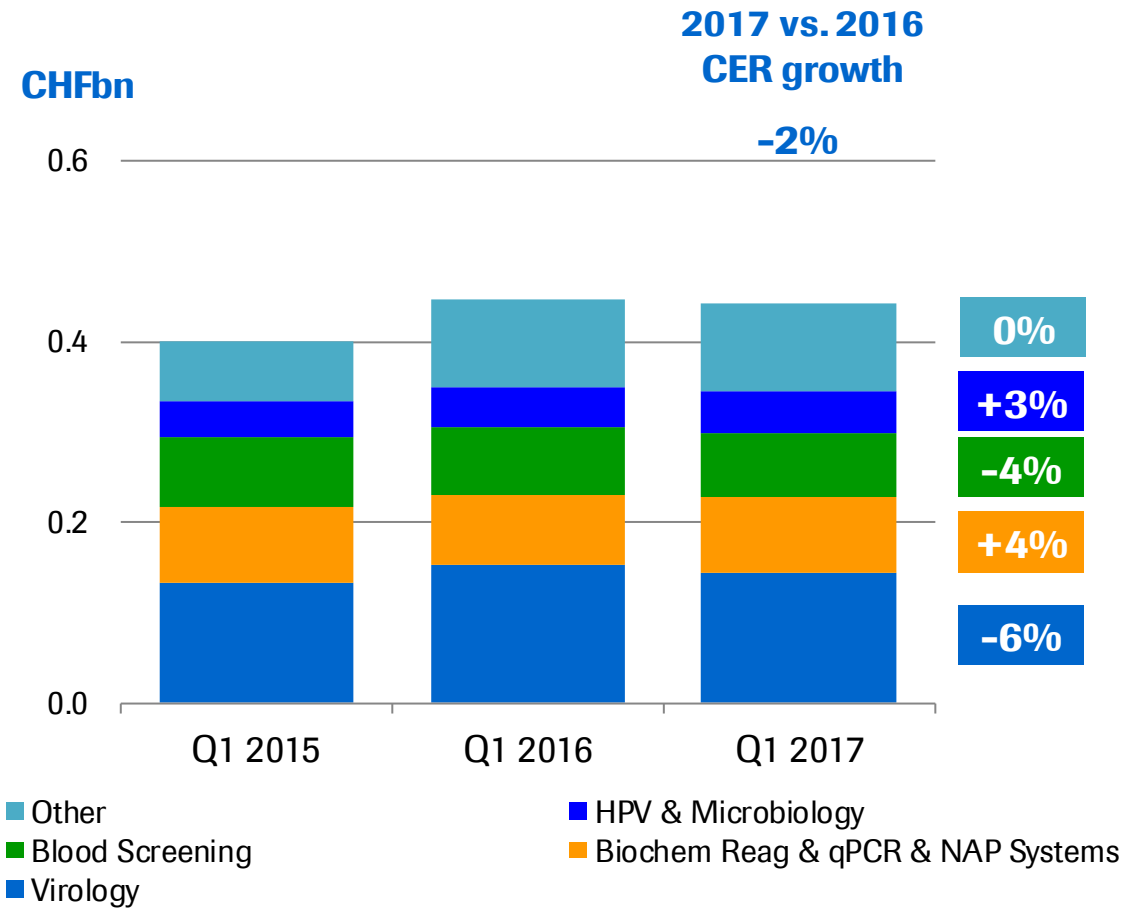
CER=Constant Exchange Rates

Diabetes Care



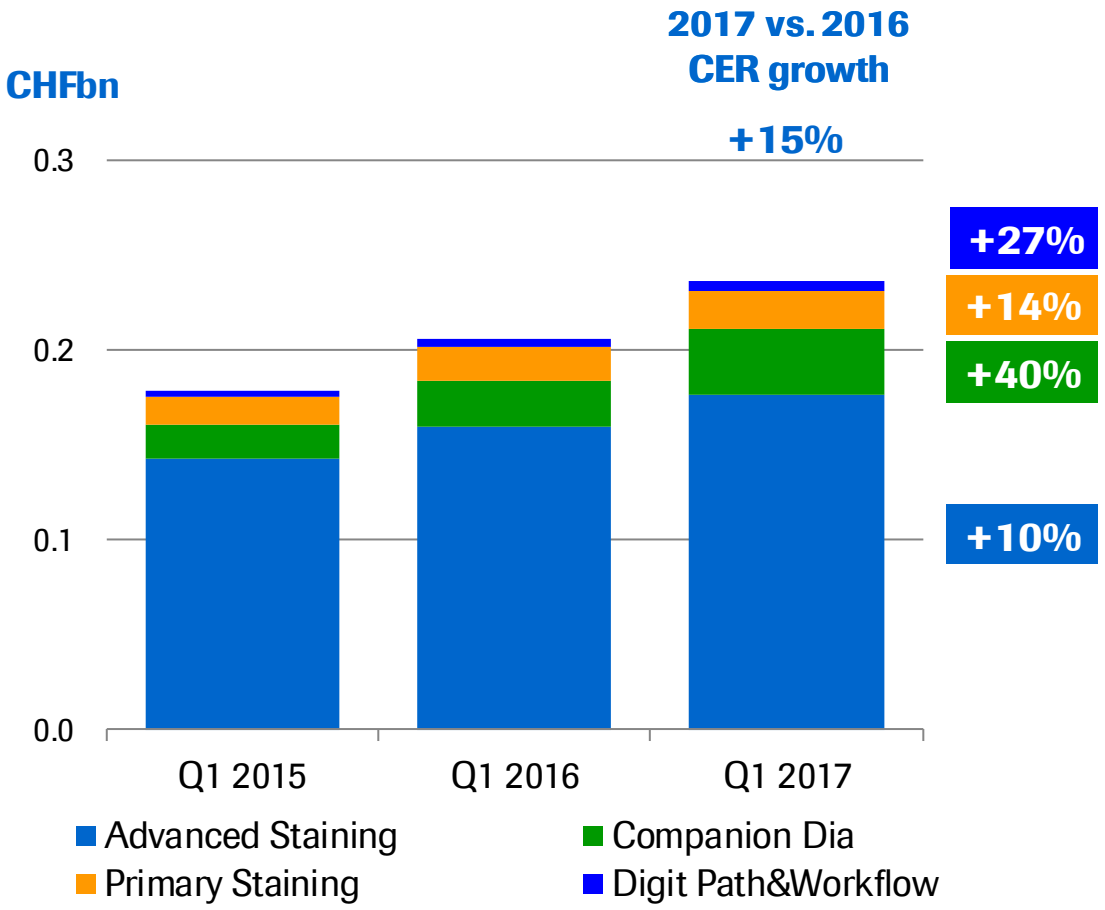
CER=Constant Exchange Rates

Molecular Diagnostics



CER=Constant Exchange Rates

Tissue Diagnostics



CER=Constant Exchange Rates

Pipeline summary

Marketed products additional indications

Global Development late-stage trials

pRED (Roche Pharma Research & Early Development)

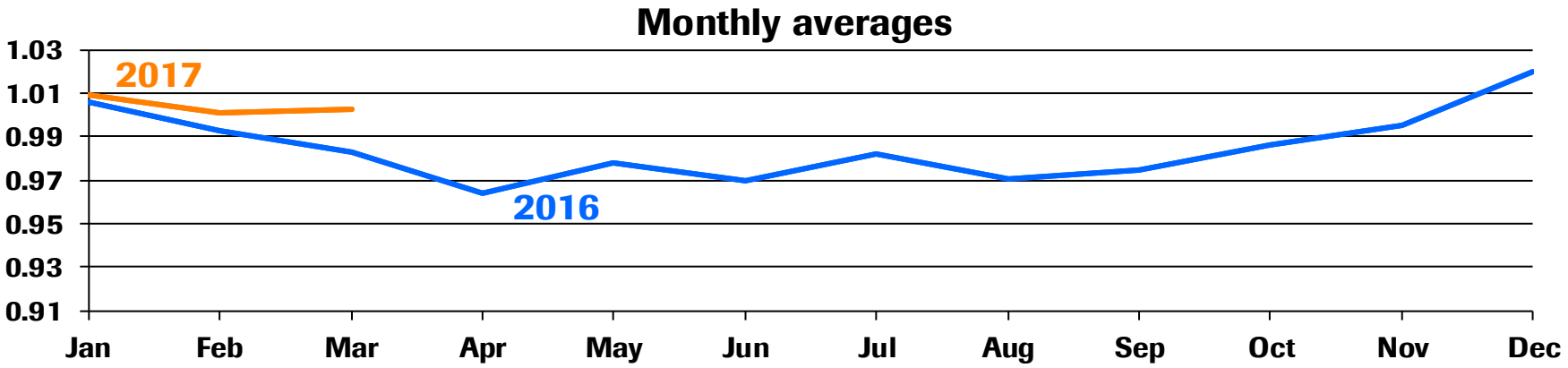
gRED (Genentech Research & Early Development)

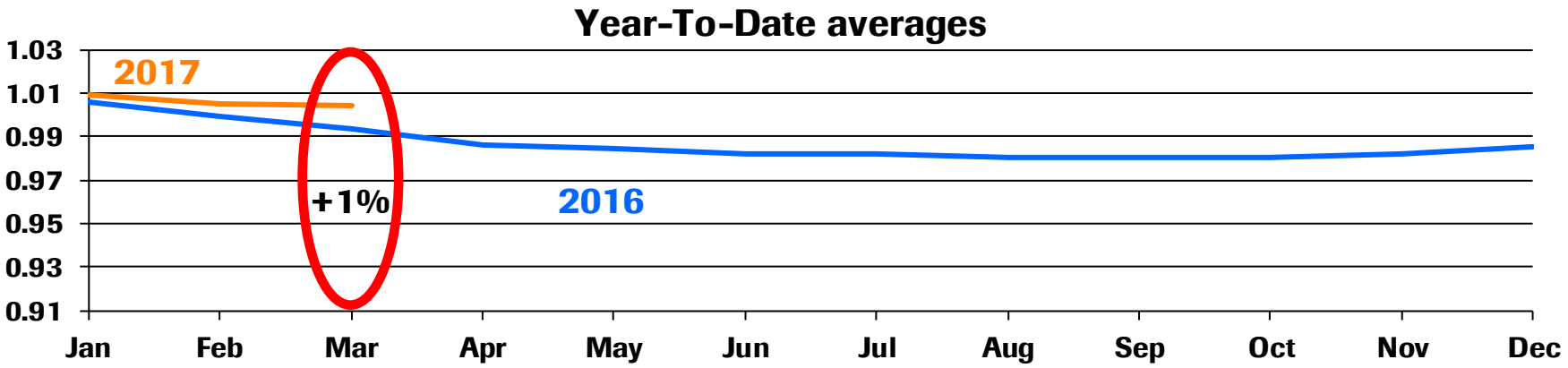
Roche Group Q1 2017 sales

Diagnostics

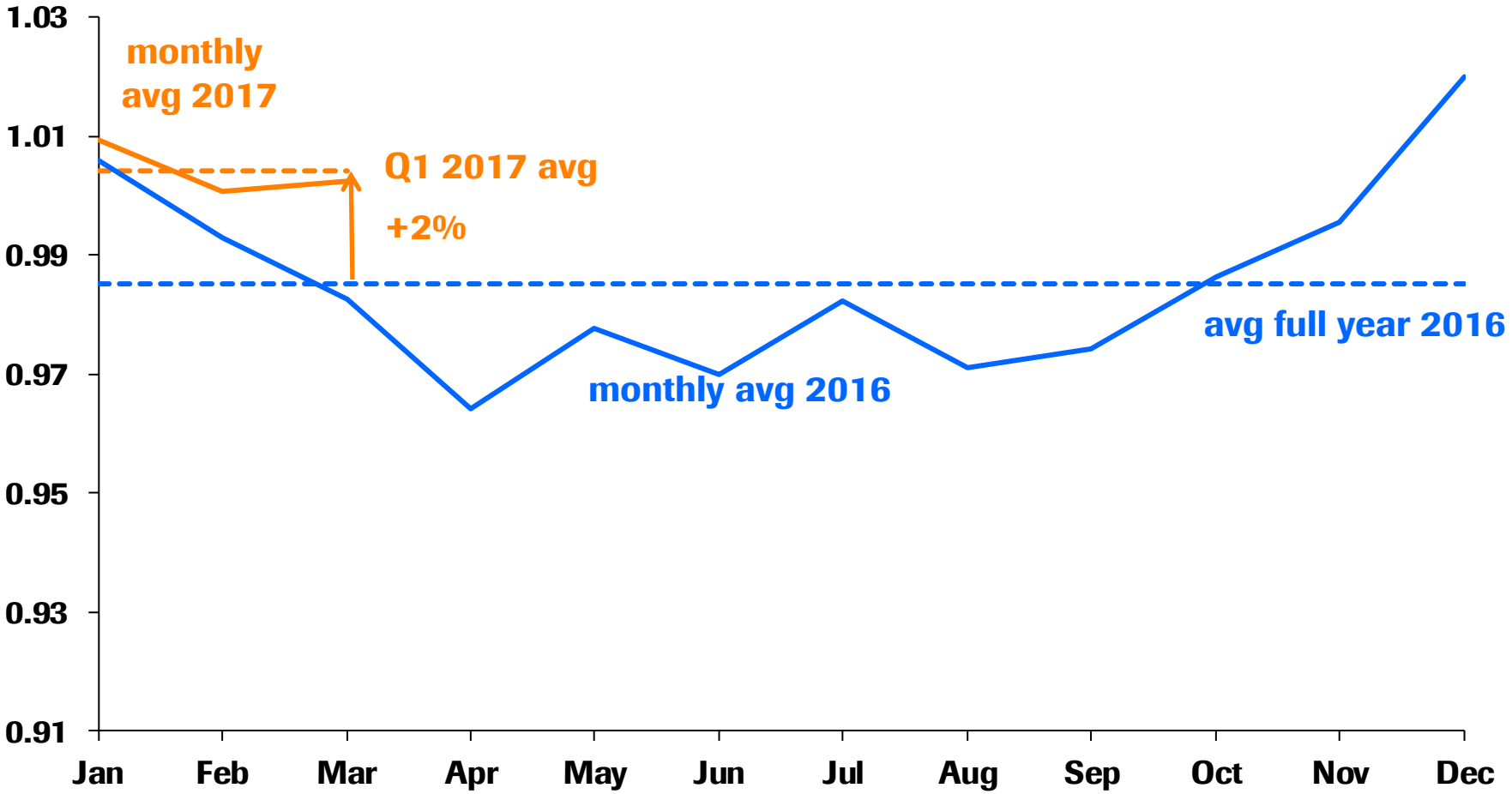
Foreign exchange rate information

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%
2016
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
Q1 2017 avg
+2%
avg full year 2016
monthly avg 2016
Jan
Feb
Mar
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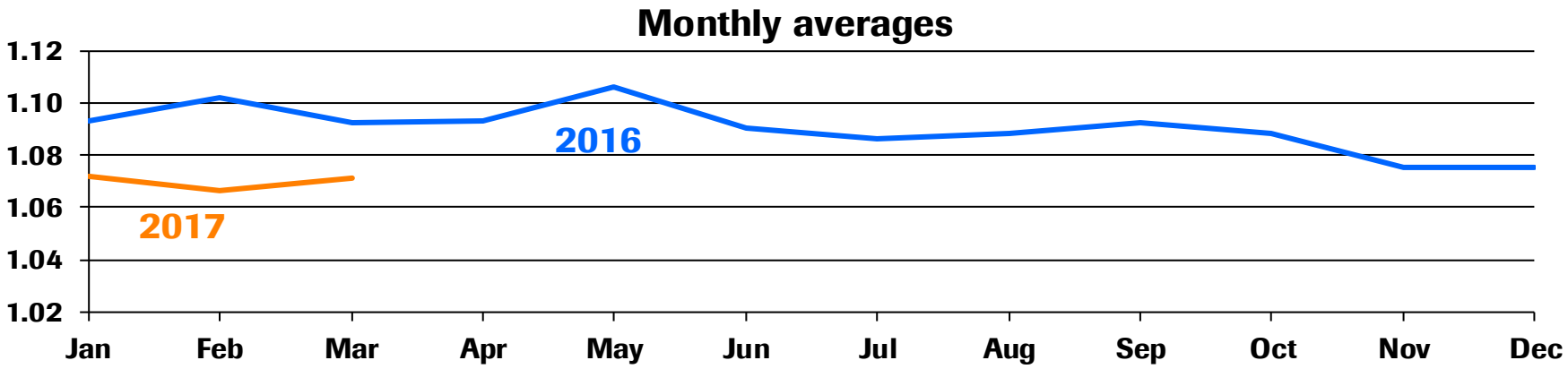
Oct
Nov
Dec

CHF / EUR


Monthly averages
1.12
1.10
1.08
1.06
1.04
1.02
2016
2017
Jan
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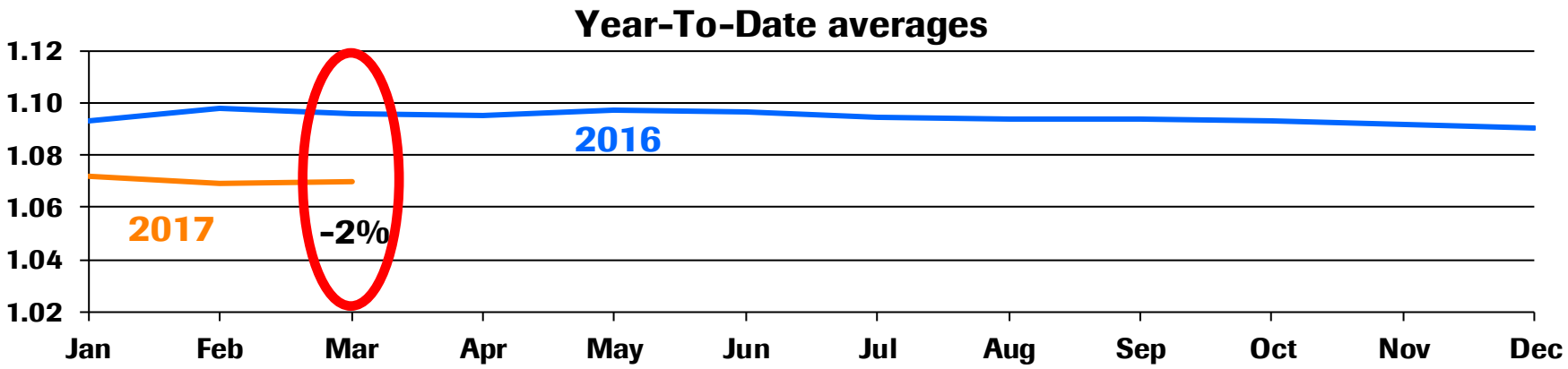
Nov
Dec


Year-To-Date averages
1.12
1.10
1.08
1.06
1.04
1.02
2016
2017
-2%
Jan
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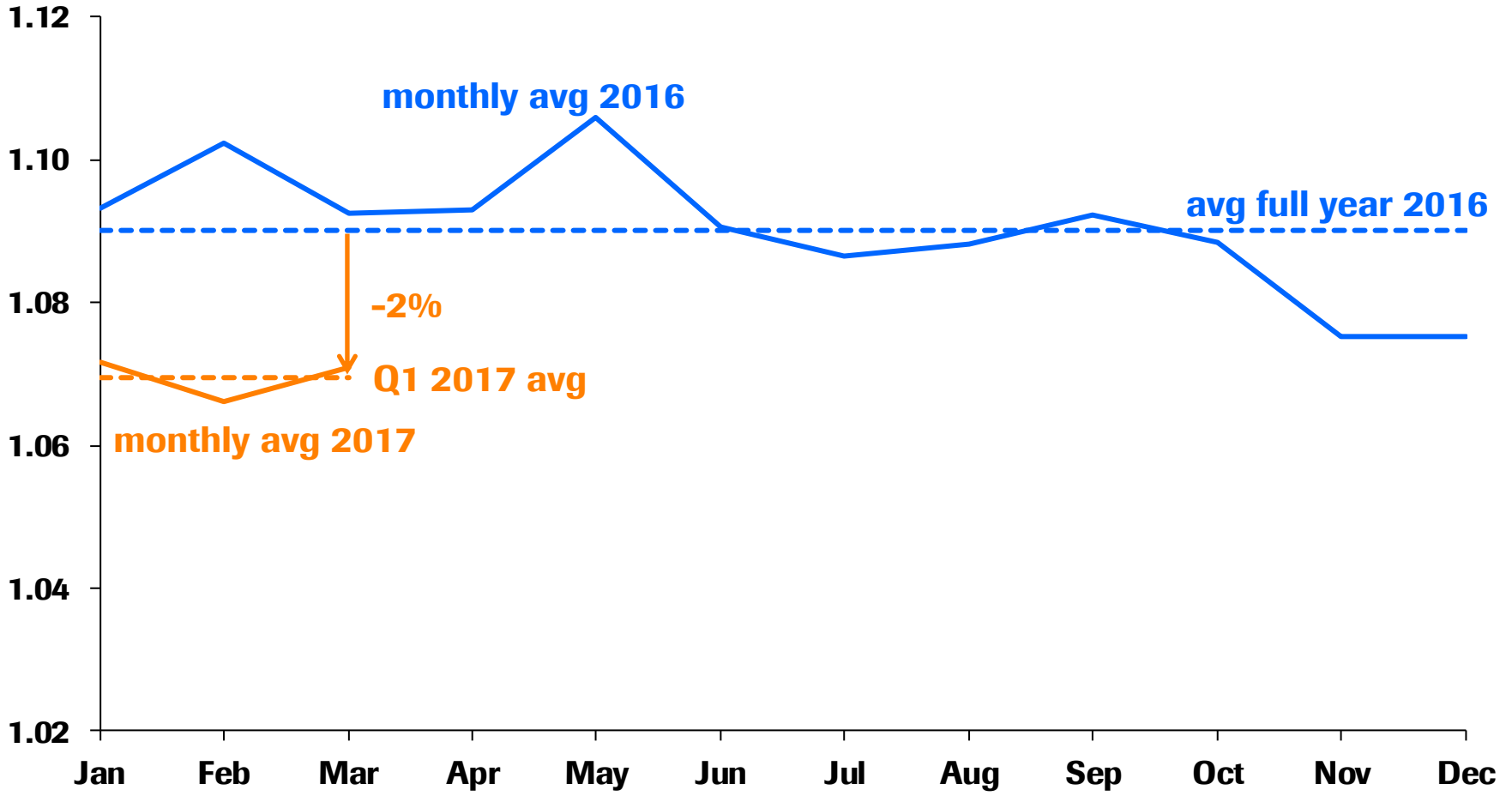
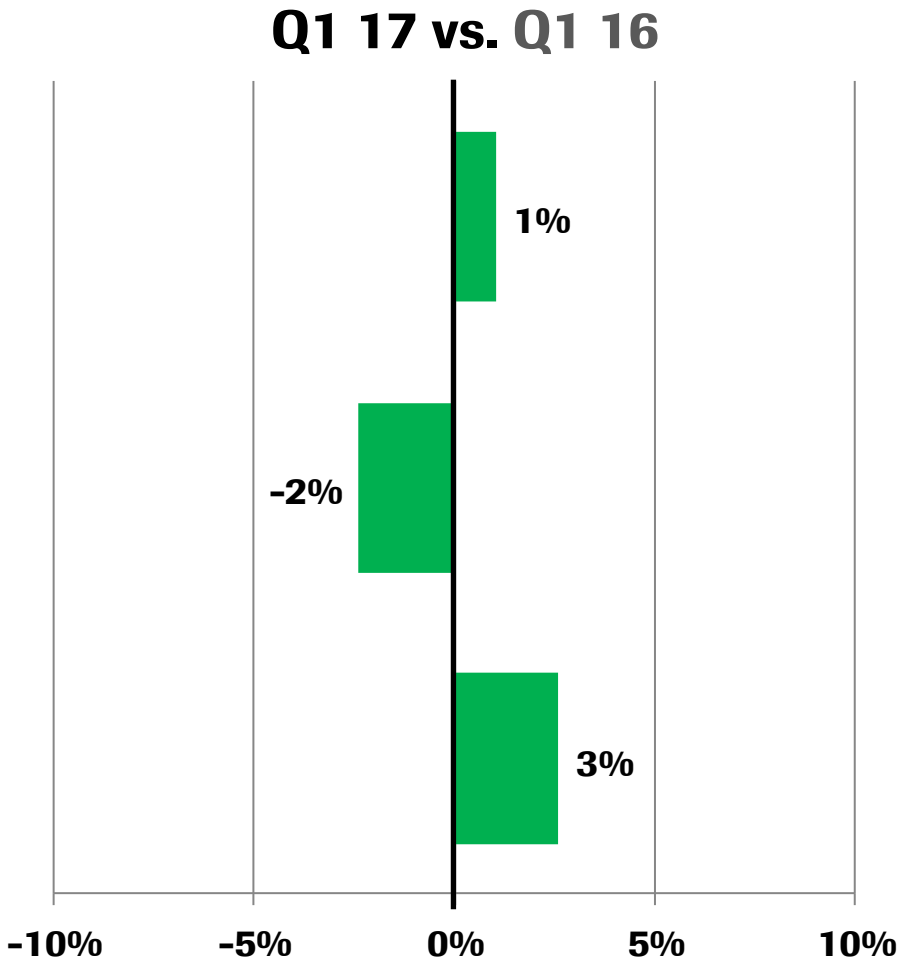
Nov
Dec

CHF / EUR


1.12
1.10
1.08
1.06
1.04
1.02
monthly avg 2016
avg full year 2016
-2%
Q1 2017 avg
monthly avg 2017
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec

Average CHF exchange rates

	Q1 17	Q1 16
USD	1.00	0.99
EUR	1.07	1.10
JPY	0.88	0.86

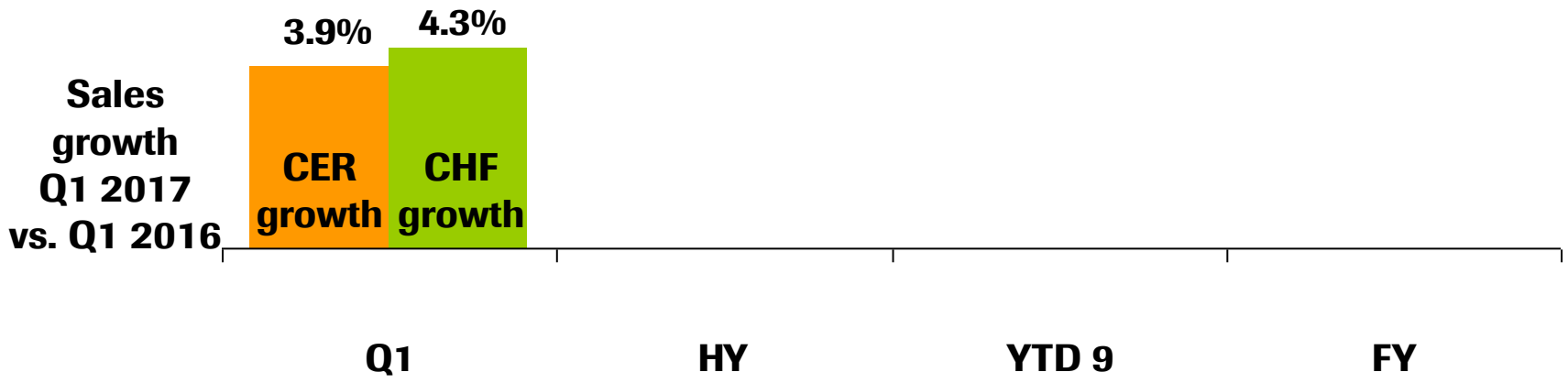


Exchange rate impact on sales growth

In Q12017 positive impact of USD and JPY, partially offset by EUR

Development of average exchange rates versus prior year period

CHF / USD	+1.0%
CHF / EUR	-2.4%
CHF / JPY	+2.6%
Difference in CHF / CER growth	+0.4%p



CER=Constant Exchange Rates

Doing now what patients need next