



*Aiming to become a “top pharmaceutical company”*

# **FY2014 2Q Consolidated Financial Overview (IFRS based)**

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# Forward-Looking Statements

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This presentation may include forward-looking statements pertaining to the business and prospects of Chugai Pharmaceutical Co., Ltd. (the "Company"). These statements reflect the Company's current analysis of existing information and trends. Actual results may differ from expectations based on risks and uncertainties that may affect the Company's businesses.

Note: Amounts shown in this report are rounded to the nearest 0.1 billion yen

Variance and % are calculated based on the amounts shown



# Summary

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## ■ Revenues: 222.0 billion JPY (+10.4% YoY)

- Domestic sales excl. Tamiflu (+8.8%): increase due to steady growth of mainstay products and new products
- Overseas sales (+28.4%): increase due to growth in Actemra export and weak yen
- Royalties and other operating income (+13.9%): increase due to growth of milestone income and Actemra-related income

## ■ Cost of sales / Operating expenses

- Cost of sales: the ratio to sales worsened due primarily to yen depreciation
- Operating expenses: 2.4% increase on a core basis in total expenses due to yen depreciation, an increase in research and development resulting primarily from progress in in-house projects and increased activities of CPR, etc

## ■ Profits

- IFRS results: operating profit 43.1 billion JPY (+13.1%), net income 29.4 billion JPY (+16.2%)
- Core results: operating profit 43.7 billion JPY (+12.9%)
- Core EPS: 53.66 JPY (+16.5%)



# IFRS and Core Results Jan – Jun

(Billion JPY)	IFRS results		Non-core items		Core results	
	2014 Jan - Jun		Intangible assets and Business combinations	Other eliminated items	2014 Jan - Jun	
<b>Revenues</b>	<b>222.0</b>				<b>222.0</b>	
Sales	208.1				208.1	
Royalties and other operating income	13.9				13.9	
Cost of sales	-102.6		+0.5		-102.1	
<b>Gross profit</b>	<b>119.4</b>		<b>+0.5</b>		<b>119.9</b>	
<b>Operating expenses</b>	<b>-76.3</b>		<b>+0.0</b>	<b>+0.1</b>	<b>-76.2</b>	
Marketing and distribution	-34.3		+0.0		-34.3	
Research and development	-36.7		+0.0	+0.1	-36.6	
General and administration	-5.2			+0.0	-5.2	
<b>Operating profit</b>	<b>43.1</b>		<b>+0.6</b>	<b>+0.1</b>	<b>43.7</b>	
Financing costs	-0.0				-0.0	
Other financial income (expense)	0.3				0.3	
<b>Profit before taxes</b>	<b>43.4</b>		<b>+0.6</b>	<b>+0.1</b>	<b>44.1</b>	
Income taxes	-14.0		-0.2	-0.0	-14.2	
<b>Net income</b>	<b>29.4</b>		<b>+0.3</b>	<b>+0.0</b>	<b>29.8</b>	
Chugai shareholders	28.9		+0.3	+0.0	29.3	
Non-controlling interests	0.5				0.5	

## Non-Core items

- Intangible/Business combinations  
Amortization of intangible assets:  
+0.6bn JPY  
No business combinations
- Other eliminated items  
Restructuring expenses: +0.1bn JPY

(Billion JPY)

Core net income  
attributable to Chugai  
shareholders 29.3

(Millions of shares)

Weighted average  
number of shares  
and equity securities  
in issue used to  
calculate diluted  
earnings per share 546

(JPY)

Core EPS 53.66

## Year on Year (Core)

## Financial Overview Jan – Jun



(Billion JPY)	2013		2014		Growth	
	Jan - Jun	vs. Rev*.	Jan - Jun	vs. Rev*.		
<b>Revenues</b>	<b>201.0</b>		<b>222.0</b>		<b>+21.0</b>	<b>+10.4%</b>
Sales	188.8		208.1		+19.3	+10.2%
excl. Tamiflu	179.8		201.0		+21.2	+11.8%
Domestic	152.0		165.3		+13.3	+8.8%
Export to Roche	18.4		26.3		+7.9	+42.9%
Other overseas	9.4		9.5		+0.1	+1.1%
Tamiflu	9.0		7.1		-1.9	-21.1%
Ordinary	8.2		7.0		-1.2	-14.6%
Stockpiling	0.8		0.1		-0.7	-87.5%
Royalties and other operating income	12.2		13.9		+1.7	+13.9%
Cost of sales	-87.9	43.7%	-102.1	46.0%	-14.2	+16.2%
<b>Gross profit</b>	<b>113.1</b>	<b>56.3%</b>	<b>119.9</b>	<b>54.0%</b>	<b>+6.8</b>	<b>+6.0%</b>
Operating expenses	-74.4	37.0%	-76.2	34.3%	-1.8	+2.4%
<b>Operating profit</b>	<b>38.7</b>	<b>19.3%</b>	<b>43.7</b>	<b>19.7%</b>	<b>+5.0</b>	<b>+12.9%</b>
Financing costs	-0.0		-0.0		+0.0	0.0%
Other financial income (expense)	-1.2		0.3		+1.5	-
Income taxes	-11.9		-14.2		-2.3	+19.3%
<b>Net income</b>	<b>25.6</b>	<b>12.7%</b>	<b>29.8</b>	<b>13.4%</b>	<b>+4.2</b>	<b>+16.4%</b>
EPS (JPY)	46.06		53.66		+7.60	+16.5%

(Billion JPY)

Royalties and other operating income +1.7

Milestone income and Actemra-related income increased

Other financial income (exp.) +1.5

Exchange gains/losses +3.6

Gains/Losses on derivatives -2.2

Cost of sales ratio vs. Sales

2013 Jan– Jun	2014 Jan–Jun
46.6%	49.1%

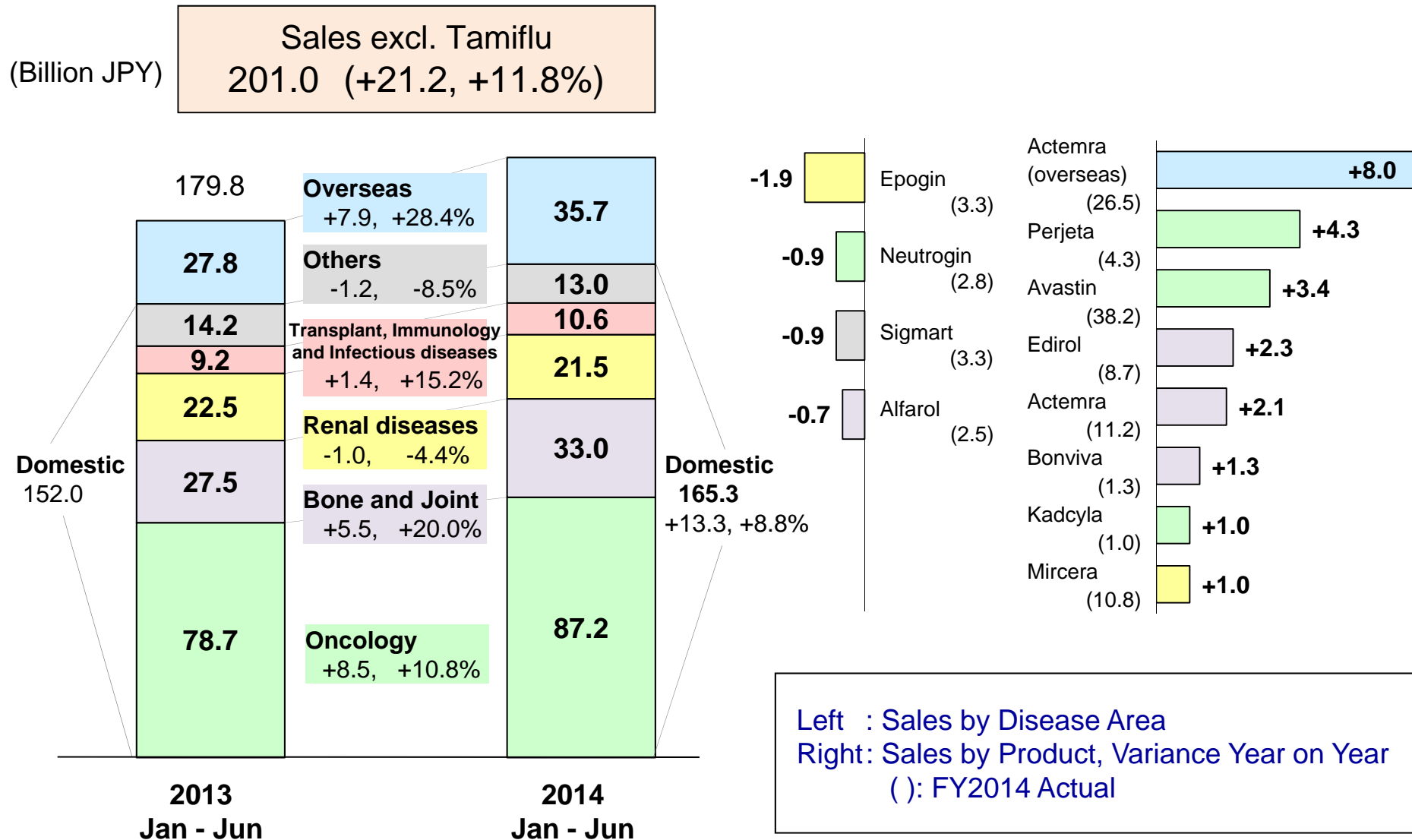
Average exchange rate (JPY)

	2013 Jan–Jun	2014 Jan–Jun
CHF	101.94	115.04
EUR	125.33	140.51

\*Revenues

Year on Year

# Sales (excl. Tamiflu) Jan – Jun





# Tamiflu Sales Performance

(Billion JPY)		Fiscal Term Sales												Forecast		
		FY2009.12		FY2010.12		FY2011.12		FY2012.12		FY2013.12		FY2014.12		Seasonal Sales	Cases per sentinel* (millions)	
		Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec			
Ordinary	2008-09	11.0													16.7	1.27
	2009-10		25.2	1.4											26.6	2.02
	2010-11				0.2	4.1									4.3	1.26
	2011-12						1.3	7.8							9.1	1.63
	2012-13								2.4	8.2					10.6	1.11
	2013-14										1.9	7.0			9.0	1.44
	2014-15												1.7		-	-
<b>Ordinary</b>		<b>36.2</b>	<b>(+29.1)</b>	<b>1.6</b>	<b>(-34.6)</b>	<b>5.4</b>	<b>(+3.8)</b>	<b>10.2</b>	<b>(+4.8)</b>	<b>10.1</b>	<b>(-0.1)</b>	<b>8.8</b>	<b>(-1.3)</b>			
Govt. Stockpile etc.	2008-09	14.4													15.5	
	2009-10		25.6	10.6											36.2	
	2010-11				5.9	0.5									6.4	
	2011-12						2.8	0.4							3.2	
	2012-13								1.5	0.8					2.3	
	2013-14										0.1	0.1			0.2	
	2014-15												0.0		-	
<b>Govt. Stockpile etc.</b>		<b>40.0</b>	<b>(+38.7)</b>	<b>16.6</b>	<b>(-23.4)</b>	<b>3.3</b>	<b>(-13.3)</b>	<b>1.9</b>	<b>(-1.4)</b>	<b>0.9</b>	<b>(-1.0)</b>	<b>0.1</b>	<b>(-0.8)</b>			
<b>Total</b>		<b>25.4</b>	<b>50.8</b>	<b>12.0</b>	<b>6.1</b>	<b>4.6</b>	<b>4.1</b>	<b>8.1</b>	<b>3.9</b>	<b>9.0</b>	<b>2.0</b>	<b>7.1</b>	<b>1.7</b>			
		<b>76.2</b>	<b>(+67.8)</b>	<b>18.2</b>	<b>(-58.0)</b>	<b>8.7</b>	<b>(-9.5)</b>	<b>12.0</b>	<b>(+3.3)</b>	<b>11.0</b>	<b>(-1.0)</b>	<b>8.8</b>	<b>(-2.2)</b>			

\*Total patient number of the controlled samples in the "Infectious Diseases Weekly Report", period between late October and mid-April (between early July 2009 and mid-March 2010 for 2009/2010), published by Japan's National Institute of Infectious Diseases.

Company forecast

() Year on year

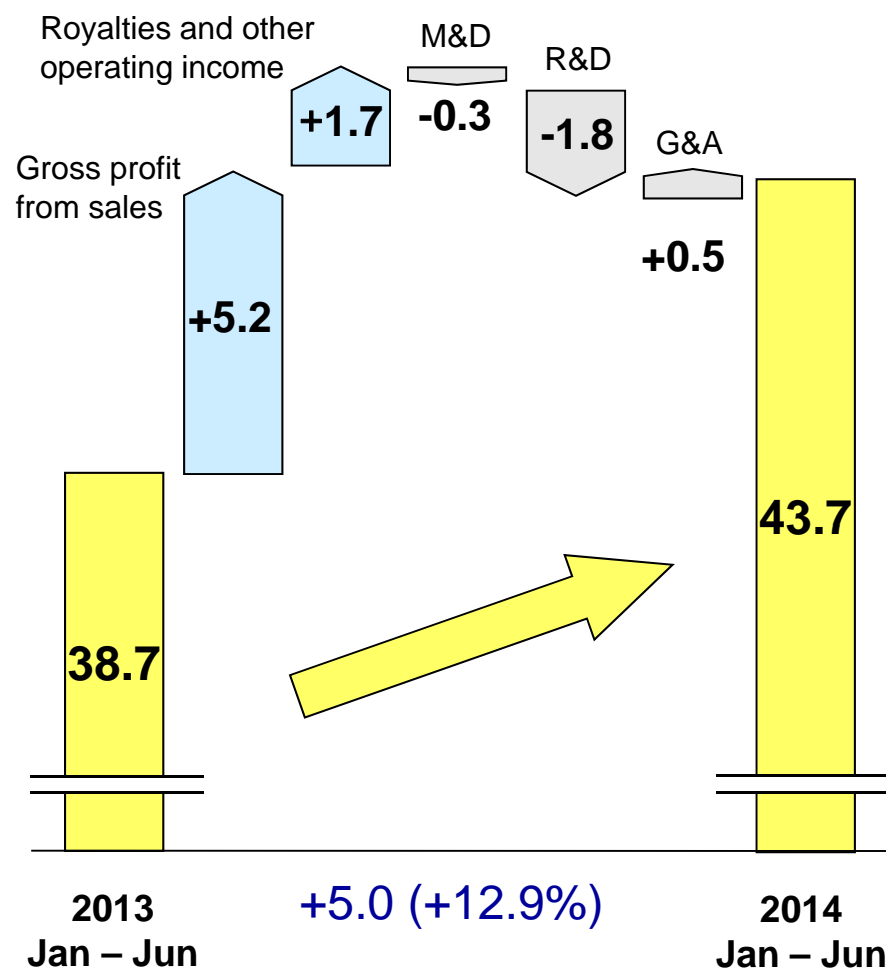
Year on Year (Core)

# Operating Profit Jan – Jun



Roche Roche Group

(Billion JPY)



(Billion JPY)	2013 Jan - Jun	2014 Jan - Jun	Growth
<b>Revenues</b>	<b>201.0</b>	<b>222.0</b>	<b>+21.0</b>
Cost of sales	-87.9	-102.1	-14.2
<b>Gross profit</b>	<b>113.1</b>	<b>119.9</b>	<b>+6.8</b>
of which Sales	100.9	106.1	+5.2
Royalties, etc.	12.2	13.9	+1.7
Marketing and distribution	-34.0	-34.3	-0.3
Research and development	-34.8	-36.6	-1.8
General and administration	-5.7	-5.2	+0.5
<b>Operating profit</b>	<b>38.7</b>	<b>43.7</b>	<b>+5.0</b>

Increase in gross profit from sales	+5.2
Increase in royalties and other operating income	+1.7
Increase in marketing and distribution	-0.3
Increase in research and development	-1.8
Decrease in general and administration	+0.5

Increase in mainstay products, new products and Actemra overseas  
 Negative foreign exchange impact on expenses of overseas sales subsidiaries, etc  
 Negative foreign exchange impact, progress in in-house projects, increased activities of CPR\*, etc  
 Various expenses decreased



Year on Year (Core)

## Financial Overview Apr – Jun



(Billion JPY)	2013		2014		Growth		(Billion JPY)
	Apr - Jun	vs. Rev*.	Apr - Jun	vs. Rev*.			
<b>Revenues</b>	<b>110.6</b>		<b>98.0</b>		<b>-12.6</b>	<b>-11.4%</b>	Royalties and other operating income -4.7
Sales	101.8		93.9		-7.9	-7.8%	Milestone income decreased
excl. Tamiflu	101.1		93.7		-7.4	-7.3%	
Domestic	83.2		80.1		-3.1	-3.7%	Operating expenses +0.7
Export to Roche	13.3		9.3		-4.0	-30.1%	Marketing and distribution +0.3
Other overseas	4.6		4.3		-0.3	-6.5%	Research and development -0.0
Tamiflu	0.7		0.2		-0.5	-71.4%	General and administration +0.6
Ordinary	0.7		0.2		-0.5	-71.4%	Various expenses decreased
Stockpiling	-		-		-	-	
Royalties and other operating income	8.8		4.1		-4.7	-53.4%	
Cost of sales	-47.3	42.8%	-46.8	47.8%	+0.5	-1.1%	
<b>Gross profit</b>	<b>63.3</b>	<b>57.2%</b>	<b>51.1</b>	<b>52.1%</b>	<b>-12.2</b>	<b>-19.3%</b>	
Operating expenses	-39.6	35.8%	-38.9	39.7%	+0.7	-1.8%	
<b>Operating profit</b>	<b>23.6</b>	<b>21.3%</b>	<b>12.3</b>	<b>12.6%</b>	<b>-11.3</b>	<b>-47.9%</b>	Cost of sales ratio vs. Sales
Financing costs	0.0		0.0		+0.0	0.0%	
Other financial income (expense)	-0.2		0.1		+0.3	-	
Income taxes	-7.3		-1.9		+5.4	-74.0%	
<b>Net income</b>	<b>16.2</b>	<b>14.6%</b>	<b>10.5</b>	<b>10.7%</b>	<b>-5.7</b>	<b>-35.2%</b>	
EPS (JPY)	29.23		18.85		-10.38	-35.5%	

2013 Apr– Jun	2014 Apr–Jun
46.5%	49.8%

\*Revenues

vs. Forecast (Core)



# Financial Overview Jan – Jun

(Billion JPY)	Actual	Forecast on Jan 30		2013
	2014 Jan - Jun	2014 Jan - Dec	Progress	Progress*
<b>Revenues</b>	<b>222.0</b>	<b>451.0</b>	<b>49.2%</b>	<b>47.4%</b>
Sales	208.1	427.0	48.7%	47.0%
excl. Tamiflu	201.0	418.2	48.1%	46.1%
Domestic	165.3	335.7	49.2%	46.2%
Export to Roche	26.3	64.6	40.7%	42.9%
Other overseas	9.5	17.9	53.1%	51.9%
Tamiflu	7.1	8.8	80.7%	81.8%
Royalties and other operating income	13.9	24.0	57.9%	54.5%
Cost of sales	-102.1	-213.0	47.9%	47.2%
<b>Gross profit</b>	<b>119.9</b>	<b>238.0</b>	<b>50.4%</b>	<b>47.6%</b>
Operating expenses	-76.2	-167.0	45.6%	47.2%
<b>Operating profit</b>	<b>43.7</b>	<b>71.0</b>	<b>61.5%</b>	<b>48.4%</b>
EPS (JPY)	53.66	82.62	64.9%	48.6%

\*Jan - Jun progress versus Jan - Dec

vs. Forecast (Core)

## Domestic Sales (excl. Tamiflu) Jan – Jun



(Billion JPY)	Actual	Forecast on Jan 30		2013
	2014 Jan - Jun	2014 Jan - Dec	Progress	Progress*
<b>Domestic sales excl. Tamiflu</b>	<b>165.3</b>	<b>335.7</b>	<b>49.2%</b>	<b>46.2%</b>
<b>Oncology</b>	<b>87.2</b>	<b>178.9</b>	<b>48.7%</b>	<b>45.6%</b>
Avastin	38.2	81.2	47.0%	46.2%
Herceptin	14.9	30.0	49.7%	46.6%
Tarceva	5.6	11.3	49.6%	44.2%
Xeloda	5.0	10.8	46.3%	48.7%
Perjeta	4.3	4.7	91.5%	-
Kadcyla	1.0	1.9	52.6%	-
<b>Bone and Joint</b>	<b>33.0</b>	<b>67.3</b>	<b>49.0%</b>	<b>45.4%</b>
Actemra	11.2	22.4	50.0%	44.6%
Edirol	8.7	17.6	49.4%	42.7%
Bonviva	1.3	3.9	33.3%	-
<b>Renal</b>	<b>21.5</b>	<b>45.8</b>	<b>46.9%</b>	<b>46.0%</b>
Mircera	10.8	24.6	43.9%	43.6%
Epogin	3.3	6.7	49.3%	49.5%
<b>Transp., Immun., Infectious</b>	<b>10.6</b>	<b>17.3</b>	<b>61.3%</b>	<b>48.9%</b>
Pegasys	3.7	5.1	72.5%	50.9%
Copegus	1.7	1.8	94.4%	53.8%
<b>Others</b>	<b>13.0</b>	<b>26.3</b>	<b>49.4%</b>	<b>49.7%</b>

\*Jan - Jun progress versus Jan - Dec. Forecast for Kadcyla as disclosed on Apr. 24

vs. Forecast (Core)

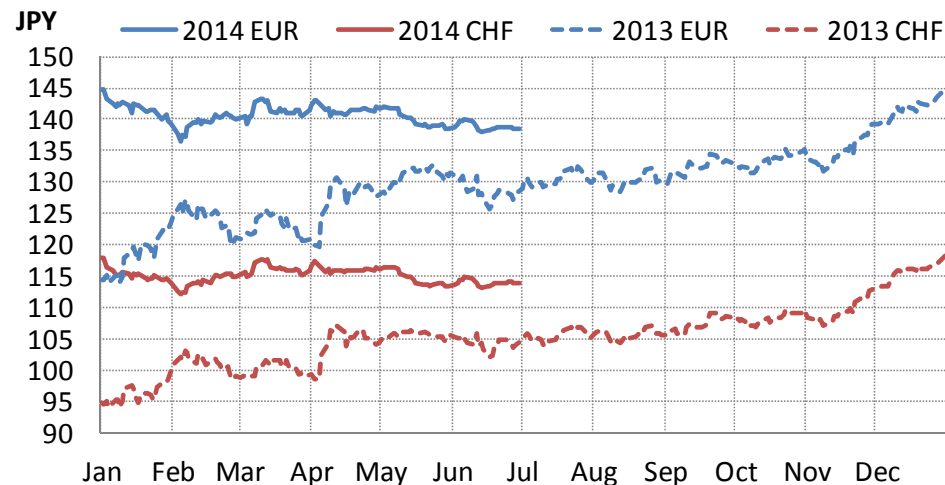
# Impact from Foreign Exchange



(Billion JPY)	FX impact Jan - Jun (vs. Forecast on Jan. 30)	
<b>Revenues</b>	<b>-0.4</b>	
	Sales	-0.3
	Royalties and other operating income	-0.0
Cost of sales	Cost of sales	+0.2
Operating expenses	Expenses	+0.1
<b>Operating profit</b>	<b>-0.1</b>	

FX rate to the JPY*	Assumption Jan - Dec (as of Jan. 30)	Actual Jan - Jun avg.	Reference Actual Jan - Jun avg. (2013)
1CHF	116.00	115.04	101.94
1EUR	142.00	140.51	125.33

\* Actual: average exchange rate for the period of Jan - Jun



vs. 2013 Year End

# Balance Sheet Items



## < Assets, Liabilities, and Net Assets >

(Billion JPY)	2013 Dec	2014 Jun	Change
Trade accounts receivable	111.1	106.6	- 4.5
Inventories	128.5	141.8	+ 13.3
Trade accounts payable	-35.9	-42.9	- 7.0
Other net working capital	-26.6	-21.1	+ 5.5
<b>Net working capital</b>	<b>177.1</b>	<b>184.4</b>	<b>+ 7.3</b>
Property, plant and equipment	140.4	140.0	- 0.4
Intangible assets	9.5	9.6	+ 0.1
Other long-term assets - net	-1.8	-1.6	+ 0.2
<b>Long-term net operating assets</b>	<b>148.1</b>	<b>147.9</b>	<b>- 0.2</b>
<b>Net operating assets</b>	<b>325.2</b>	<b>332.3</b>	<b>+ 7.1</b>
Debt	-0.2	-0.2	+ 0.0
Marketable securities	119.6	115.1	- 4.5
Cash and cash equivalents	115.1	128.8	+ 13.7
<b>Net cash</b>	<b>234.4</b>	<b>243.6</b>	<b>+ 9.2</b>
Other non-operating assets - net	13.6	9.5	- 4.1
<b>Net non-operating assets</b>	<b>248.0</b>	<b>253.1</b>	<b>+ 5.1</b>
<b>Total net assets</b>	<b>573.2</b>	<b>585.4</b>	<b>+ 12.2</b>
<b>Total net assets</b>	<b>573.2</b>	<b>585.4</b>	<b>+ 12.2</b>
Total assets	697.2	708.2	+ 11.0
Total liabilities	-124.0	-122.8	+ 1.2

Other net working capital: accrued receivable, accrued payable, accrued expenses, etc

Other long-term assets - net: long term prepaid expenses, long-term provisions, etc

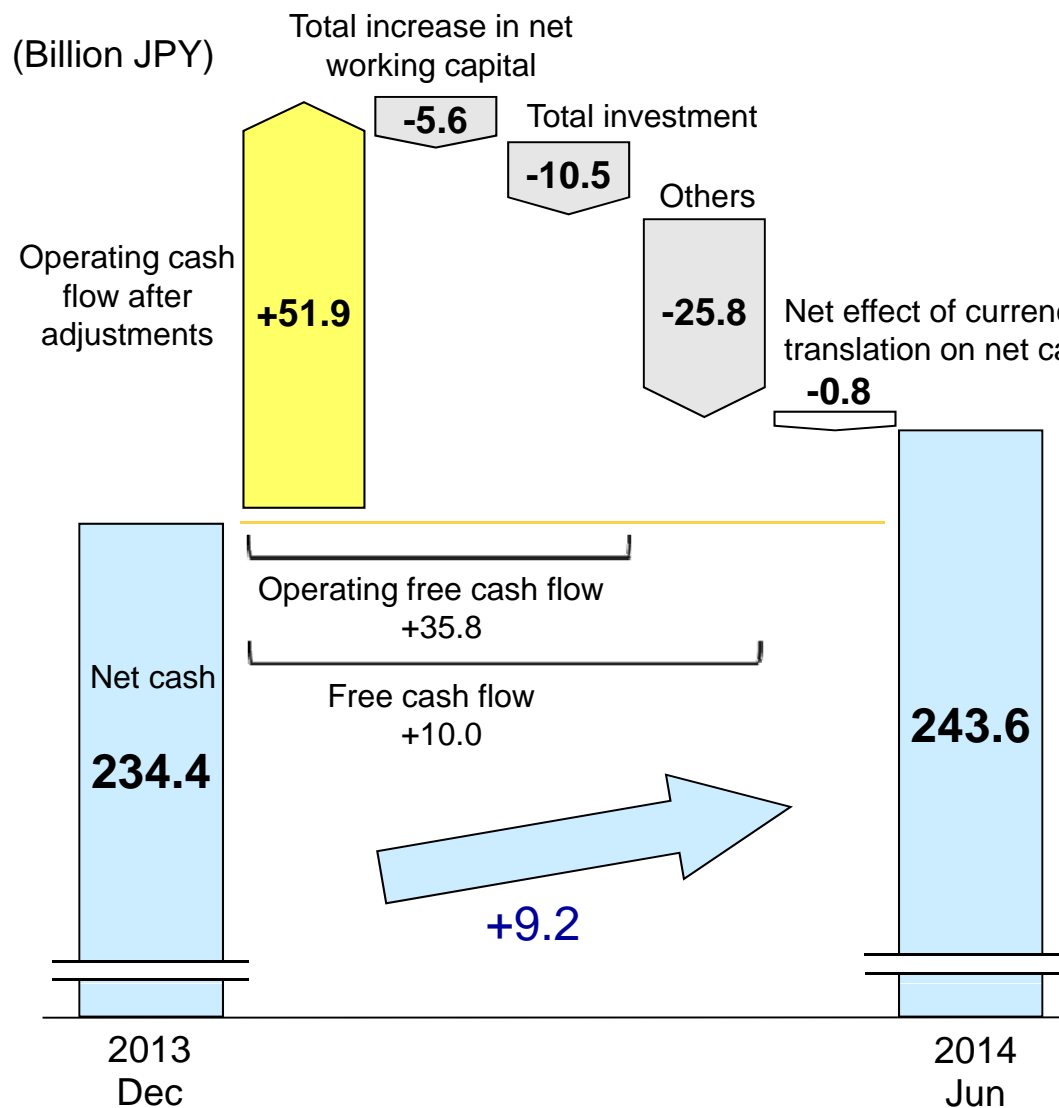
Other non-operating assets - net: deferred income tax assets, accrued corporate tax, etc

Net working capital	+7.3
Trade accounts receivable	-4.5
Mainly seasonal change	
Inventories	+13.3
Launch of new product, increased demand for new product, increase in safety stocks to ensure stable supply, etc	
Trade accounts payable	-7.0
Other net working capital	+5.5
Long-term net operating assets	-0.2
Net cash	+9.2
Other non-operating assets – net	-4.1
Equity ratio attributable to Chugai shareholders	+0.5%pts
2014 Jun	82.5%
2013 Dec	82.0%

FX rate to the JPY (end of period)	2013 Dec	2014 Jun	Change
CHF	118.42	113.79	-4.63
EUR	145.16	138.37	-6.79
USD	105.16	101.38	-3.78

vs. 2013 Year End

# Net Cash



Operating cash flow after adjustments	+51.9
Operating profit	+43.1
Depreciation and amortization, etc	+8.8
<b>Total increase in net working capital</b>	<b>-5.6</b>
Decrease in trade accounts receivable	+4.5
Increase in inventories	-14.3
Increase in trade accounts payable	+7.0
Increase in other net working capital	-2.8
<b>Total investment</b>	<b>-10.5</b>
Investment in PPE	-9.2
Mainly maintenance expenditures for R&D equipment and plant production machinery	
Investment in intangible assets	-1.3
<b>Operating free cash flow</b>	<b>+35.8</b>
<b>Others</b>	<b>-25.8</b>
Tax paid	-13.3
Dividends paid	-12.9
<b>Free cash flow</b>	<b>+10.0</b>

\* Net effect of currency translation on net cash, etc: Transaction in own equity instruments + Net effect of currency translation on net cash

Year on Year

## Free Cash Flow Jan - Jun



(Billion JPY)	2013 Jan-Jun	2014 Jan-Jun	Change	
<b>Operating profit - IFRS basis</b>	38.1	43.1	+5.0	Operating profit, net of operating cash adjustments
Depreciation and impairment of Property, plant and equipment	7.2	6.8	-0.4	Increase in revenues
Amortization and impairment of intangible assets	0.5	0.6	+0.1	Total increase (-) / decrease in net working capital
Other cash adjustment on operating profit	1.3	1.4	+0.1	Increase (-) / decrease in trade accounts receivable
<b>Operating profit, net of operating cash adjustments</b>	47.2	51.9	+4.7	Increase (-) / decrease in inventories
Increase (-) / decrease in trade accounts receivable	6.8	4.5	-2.3	Increase / decrease (-) in trade accounts payable
Increase (-) / decrease in inventories	-6.1	-14.3	-8.2	Total investment
Increase / decrease (-) in trade accounts payable	-8.4	7.0	+15.4	Operating free cash flow
Other change in net working capital	-1.9	-2.8	-0.9	Increase in operating profit, net operating cash adjustments, increase in investment was offset by lower increase of net working capital compared with the same period of the previous year
<b>Total increase (-) / decrease in net working capital</b>	-9.7	-5.6	+4.1	Operating free cash flow as % of revenues
Investment in Property, plant and equipment	-6.5	-9.2	-2.7	Revenues
Investment in intangible assets	-0.4	-1.3	-0.9	
<b>Total investment</b>	-6.9	-10.5	-3.6	
<b>Operating free cash flow</b>	30.6	35.8	+5.2	
<b>as % of revenues</b>	15.2%	16.1%	+0.9%pts	
Treasury activities	0.5	0.4	-0.1	
Tax paid	-11.9	-13.3	-1.4	
Dividends paid	-11.4	-12.9	-1.5	
<b>Free cash flow</b>	7.8	10.0	+2.2	
Transaction in own equity instruments	0.6	0.5	-0.1	
Net effect of currency translation on net cash } *	3.1	-1.3	-4.4	
<b>Net change in net cash</b>	11.5	9.2	-2.3	
Average exchange rate (JPY)				
CHF	101.94	115.04	+13.10	
EUR	125.33	140.51	+15.18	
USD	95.43	102.49	+7.06	

\* Net effect of currency translation on net cash, etc: Transaction in own equity instruments + Net effect of currency translation on net cash



*Aiming to become a “top pharmaceutical company”*

# Overview of Development Pipeline

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# Oncology Field

## Projects under Development (as of 24 July, 2014)



	Phase I	Phase II	Phase III	Filed
Oncology	<b>CKI27 / RG7304</b> (Japan / overseas) - solid tumors  RG7321 / pictilisib -solid tumors  RG7596 / polatuzumab vedotin ★ - NHL	<b>GC33 / RG7686</b> - HCC  RG340 / Xeloda - aGC  <b>AF802 (RG7853) / alectinib</b> (overseas) - NSCLC (PI/II)	RG1273 / Perjeta -aBC -GC  -RG3502 / Kadcyra - GC (PII/III) - aBC  GA101 (RG7159) / obinutuzumab - NHL  RG7446 / MPDL3280A - NSCLC	RG7204 / vemurafenib - melanoma

Letters in orange: in-house projects

★: Projects with advances in stages since 24 April, 2014

# Primary Field Projects under Development (as of 24 July, 2014)



	Phase I	Phase II	Phase III	Filed
Bone & Joint			RG484 / Bonviva (oral) - osteoporosis NRD101 / Suvenyl - enthesopathy	
Autoimmune		MRA / Actemra (overseas) - systemic sclerosis	MRA / Actemra (overseas) - giant cell arteritis SA237 ★ - neuromyelitis optica	
CNS	RG1577 -Alzheimer's disease RG1662 ★ - improvement of intellectual ability in individuals with Down syndrome	RG7090 - major depressive disorder	RG1678 / bitopertin - schizophrenia RG1450 / gantenerumab ★ - Alzheimer's disease	
Others	URC102 (Overseas) - gout	CIM331 ★ - atopic dermatitis ACE910 - hemophilia A (PI/II)	RG3637 / lebrikizumab - asthma	

Letters in orange: in-house projects

★: Projects with advances in stages since 24 April, 2014

★: Global study managed by Chugai



## Development Status: Oncology, Bone & Joint

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In-house

### AF802 / Alecensa<sup>®</sup> :

ALK fusion gene positive unresectable, recurrent / advanced non-small cell lung cancer

Approved in Japan in July 2014

In-licensed

### RG7596 (Anti-CD79b ADC) :

Non-Hodgkin's lymphoma

Started P1 in July 2014

In-licensed

### RG435 / Avastin<sup>®</sup> :

Breast cancer (Adjuvant)

Development discontinued in June 2014

In-house

### NRD101 / Suvenyl<sup>®</sup> :

Enthesopathy

Primary endpoint not met

Next steps to be considered

ADC: antibody-drug conjugate



# Development Status: Autoimmune Diseases

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In-house

## MRA / Actemra® :

New formulation (subcutaneous injection) for RA

April 2014: Approved in EU

June 2014: Started P3 for weekly dosage in Japan

Large-vessel vasculitis

June 2014: Orphan drug designation granted in Japan

In-house

## SA237 (anti-IL-6R MAb) :

Neuromyelitis Optica

June 2014: Orphan drug designation granted in US

In-licensed

## RG7415 (Anti-interferon alpha MAb) :

Systemic lupus erythematosus

April 2014: Development discontinued

RA: Rheumatoid Arthritis



## Development Status: CNS, Others

CNS: Central Nervous System

In-  
licensed

### RG1662 (GABA<sub>A</sub>α5 receptor antagonist) :

Improvement of intellectual ability  
in individuals with Down syndrome  
May 2014: Started P1 in Japan

In-  
licensed

### RG1450 (Anti-amyloid-beta MAb) :

Alzheimer's disease  
May 2014: Started multinational P3 (Marguerite Road study)

In-  
licensed

### RG1678 (Glycine reuptake inhibitor) :

Schizophrenia  
Met primary endpoint in one of two dose groups in multinational  
P3 (NightLyte study)

In-  
licensed

### RG7652 (Anti-PCSK9 MAb) :

Hyperlipidemia  
July 2014: Development discontinued



## Other Progress: Data Presentation

### ■ Data presentation at scientific meetings

In-house

World Federation of Hemophilia 2014 (May)

ACE910: presented preliminary data from P1 (hemophilia A)

- Safety and tolerability confirmed in healthy adults
- Efficacy to prevent bleeding was confirmed at the lowest dose, regardless of the presence or absence of factor VIII inhibitors

In-licensed

American Society of Clinical Oncology 2014 (June)

Avastin<sup>®</sup> + Tarceva<sup>®</sup>: presented Japanese P2 data on combination therapy (NSCLC)

- Clinical benefit superior to Tarceva monotherapy was suggested for patients with EGFR Mutation-positive NSCLC

In-house

GC33: presented multinational P2 data (Hepatocellular carcinoma)

- Did not meet primary endpoint

### ■ Upcoming events (Planned)

Alecensa<sup>®</sup>: Update on Japanese P1/2 to be presented at 2014 Chicago Multidisciplinary Symposium in Thoracic Oncology (October)

ACE910: Update on Japanese P1 to be presented at American Society of Hematology 2014 (December)



## Other Progress: License in Europe

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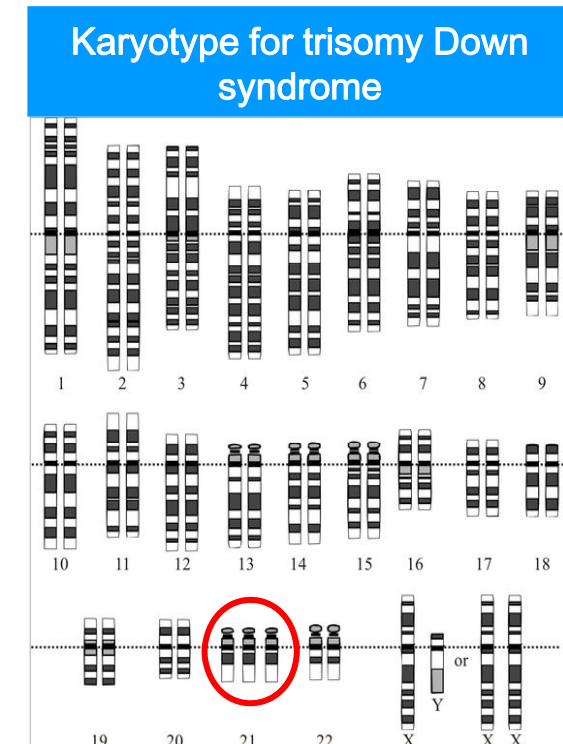
- Chugai Pharma Marketing obtained marketing license from two companies in Europe

<b>PharmaMar</b>	<p>Plitidepsin / Aplidin®:            Marketing rights granted for eight countries in Europe            Multiple myeloma            P3, filing in Europe planned in 4Q 2015</p>
<b>Helsinn</b>	<p>Netupitant-palonosetron (NEPA):            Marketing rights granted for UK &amp; Ireland            Prevention of chemotherapy-induced nausea and vomiting (CINV)            Filed in Europe and US</p>
	<p>Palonosetron / Aloxi®:            Planned to start marketing in UK from January 2015            Prevention of CINV</p>



# Down Syndrome (DS)

- The most common chromosomal anomaly (trisomy of chromosome 21) with an incidence of one in 650 to 1,000 births<sup>1)</sup>
- Associated with a delay in physical growth and intellectual disability in addition to various complications including congenital heart diseases
- Life expectancy of individuals with DS is increasing due to improvements in complication care, thus enabling more social participation of individuals with DS<sup>2)</sup>
- Lack of therapeutic options for intellectual disability prevents individuals with DS from achieving independent living



National Human Genome Research Institute (US)

- **RG1662 targets to improve intellectual ability in individuals with DS aged six to 30 years**
- **Both cognition and adaptive behavior\* are to be assessed in clinical studies**

\* Adaptive behavior: adaptive skills to meet demands of everyday living. For example, reading, writing, understanding of language, monetary concept, building personal relationships, dressing capability, etc.



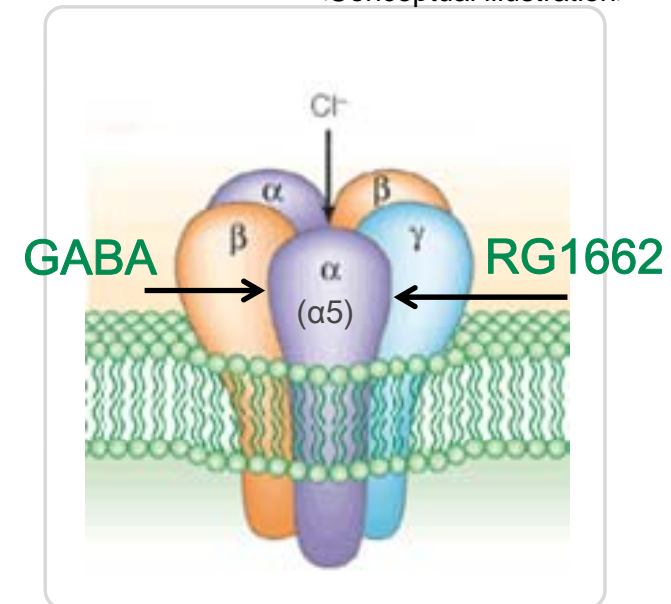


## RG1662 (GABA<sub>A</sub>α5 receptor antagonist): Mode of Action

- RG1662: a small-molecule GABA<sub>A</sub>α5 receptor antagonist created by Roche
- GABA is a representative inhibitory neurotransmitter
- GABA<sub>A</sub> α5 receptor is widely expressed in the hippocampus and prefrontal cortex, which play important roles in cognition and memory
- Inhibitory neurotransmission mediated by GABA is superior in individuals with DS, which is considered a major barrier to effective learning and memory
- RG1662 is expected to inhibit GABA's excess activity and to enhance cognition and memory functions. By selectively binding to the GABA<sub>A</sub> α5 subunit, RG1662 weakens the binding affinity between the subunit and GABA.

### Structure of GABA<sub>A</sub> α5 receptor and binding site of RG1662

<Conceptual illustration>



Nature Reviews Neuroscience 6, 565-575. 2005

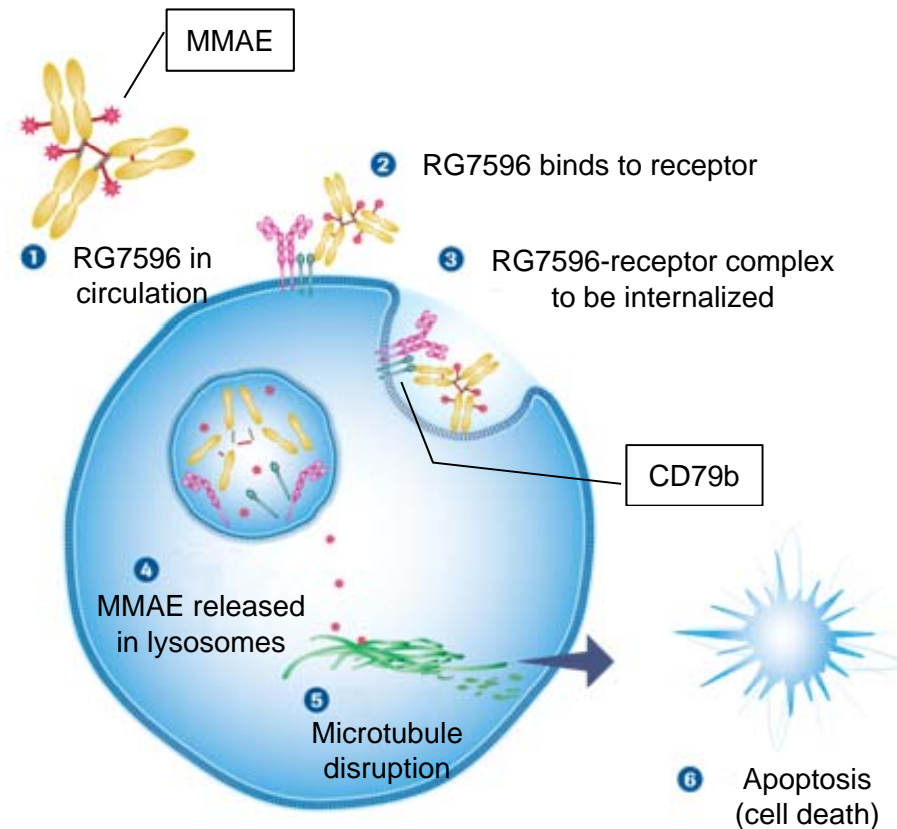
GABA : γ-amino butyric acid

GABA<sub>A</sub>α5 receptor : GABA subtype A receptors containing an α5 subunit

## RG7596 (Anti-CD79b ADC) : Mode of Action

- RG7596 (polatuzumab vedotin) is an antibody-drug conjugate (ADC) created by Genentech utilizing ADC technology of Seattle Genetics
- Anti-CD79b monoclonal antibody is conjugated to the microtubule inhibitor MMAE via a linker
- CD79b is expressed in various B-cell malignancies including Non-Hodgkin's lymphoma, the target indication of RG7596
- By binding to CD79b, RG7596 is internalized in the cell and is considered to release MMAE, which exerts cytotoxic activity

MMAE = monomethyl auristatin E



<Conceptual illustration>  
Created by Genentech

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