

FY2020 Q1 Consolidated Financial Overview

Toshiaki Itagaki Executive Vice President & CFO CHUGAI PHARMACEUTICAL CO., LTD.

April 23, 2020

Important Reminder



Forward-Looking Statements

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

Core Results

Chugai discloses its results on a Core basis from 2013 in conjunction with its transition to IFRS. Core results are the results after adjusting non-recurring items recognized by Chugai to IFRS results, and are consistent with the Core concept disclosed by Roche. Core results are used by Chugai as an internal performance indicator, for explaining the status of recurring profits both internally and externally, and as the basis for payment-by-results, including return to shareholders.

Note: Amounts shown in this report are rounded to the nearest 0.1 billion yen Variance and % are calculated based on the amounts shown.

Business Update



	In blue : actions related to development pipeline
	Global licensing agreement with Verastem Oncology for RAF/MEK inhibitor CKI27
Jan	Resolution of three-for-one stock split effective July 1, 2020
	Announcement of change in management system effective March 30, 2020
	Additional indications filed for Tecentriq and Avastin for the treatment of unresectable hepatocellular carcinoma
	Changes to marketing arrangements for SGLT2 inhibitor tofogliflozin hydrate
Fob	Rituxan obtained additional indication of acquired thrombotic thrombocytopenic purpura
Feb	Rozlytrek obtained additional indication of ROS1 fusion-positive non-small cell lung cancer
	 Alecensa obtained additional indication of recurrent or refractory ALK fusion gene-positive anaplastic large-cell lymphoma
	Workshop on multidisciplinary team care held in Cambodia
	Application filed for approval of FoundationOne Liquid CDx
Mar	 As a general rule, employees started telecommuting as a countermeasure against COVID-19
	 Resolution of year-end dividends of ¥92 per share (including special dividends of ¥44)
	Announcement of CHUGAI DIGITAL VISION 2030

Core

Financial Overview



- Year-on-year increase in revenues and operating profit
- Record-high Q1 revenues, operating profit and net income
- Progress vs. full-year forecast in line with forecast

(Billions of JPY)	2020 Jan – Mar	Growth (year on y		Forecast on Jan. 30 Progress
Revenues	179.4	+25.1	+16.3%	24.2%
Cost of sales cost to sales ratio	-61.0 42.2%	+2.7 -4.1%pts	-4.2%	24.2%
Operating expenses Research and development	-44.4 -25.0	-1.7 -1.4	+4.0% +5.9%	20.8% 21.7%
Operating profit operating margin	74.1 41.3%	+26.2 +10.3%pts	+54.7%	26.9%
Net income	52.7	+16.4	+45.2%	26.2%
EPS (JPY)	96.11	+29.96	+45.3%	* 26.3%

^{*}Progress is calculated excluding effect of the stock split. Ordinary share will be split three-for-one, on July 1, 2020 as the effective date.

Year on Year (Core)

Financial Overview Jan - Mar



(Billions of JPY)	2019 Jan - Mar	2020 Jan - Mar	Grow	rth
Revenues	154.3	179.4	+ 25.1	+ 16.3%
Sales	137.7	144.5	+ 6.8	+ 4.9%
Domestic	99.3	101.9	+ 2.6	+ 2.6%
Overseas	38.4	42.6	+ 4.2	+ 10.9%
Royalties and other operating income	16.6	34.9	+ 18.3	+ 110.2%
Royalty and profit-sharing income	13.7	26.4	+ 12.7	+ 92.7%
Other operating income	2.9	8.5	+ 5.6	+ 193.1%
Cost of sales	-63.7	-61.0	+ 2.7	- 4.2%
(cost to sales ratio)	46.3%	42.2%	-4.1%pts	-
Gross profit	90.6	118.5	+ 27.9	+ 30.8%
Operating expenses	-42.7	-44.4	- 1.7	+ 4.0%
Marketing and distribution	-15.4	-15.5	- 0.1	+ 0.6%
Research and development	-23.6	-25.0	- 1.4	+ 5.9%
General and administration	-3.7	-3.9	- 0.2	+ 5.4%
Operating profit	47.9	74.1	+ 26.2	+ 54.7%
(operating margin)	31.0%	41.3%	+10.3%pts	-
Financial account balance	-0.7	-1.2	- 0.5	+ 71.4%
Income taxes	-10.9	-20.2	- 9.3	+ 85.3%
Net income	36.3	52.7	+ 16.4	+ 45.2%
EPS (JPY)	66.15	96.11	+29.96	+ 45.3%

Domestic sales

Increase due to sales growth of new products as well as mainstay products

Overseas sales

Increase in export of Hemlibra to Roche

Royalty and profit-sharing income Increase in income for Hemlibra

Other operating income Increase in one-time income

Cost of sales

Cost to sales ratio improved due to a change in product mix, etc.

Operating expensesMainly increase of research and development expenses

Roche Roche Group

Year on Year (Core)

Sales Jan - Mar

Sales by Disease Area, Year on Year Comparisons

Sales by Products, Year on Year Changes

Tamiflu

(Ordinary) (0.6)

Alecensa

(Overseas)

Herceptin

(6.2)

(4.5)

Xeloda

(1.1)

Rituxan

(1.9)

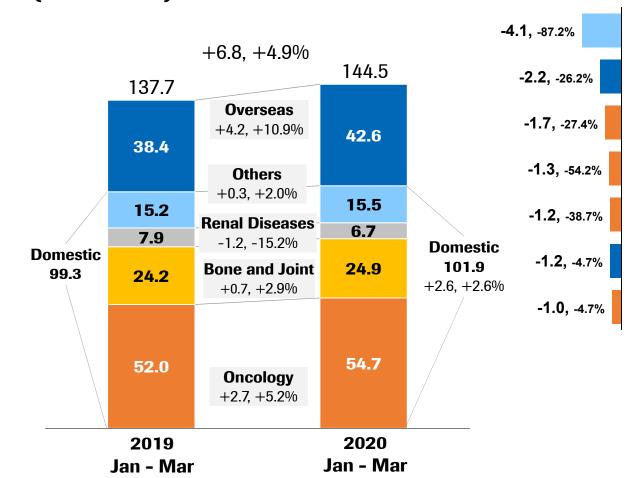
Actemra

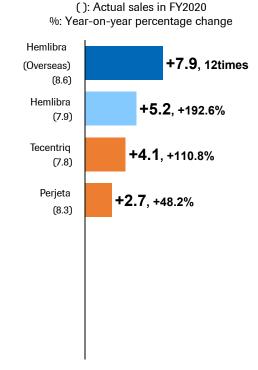
(Overseas)

(24.1)

Avastin (20.4)

(Billions of JPY)





Details of HER2 franchise (14.9) +1.1, +8.0%

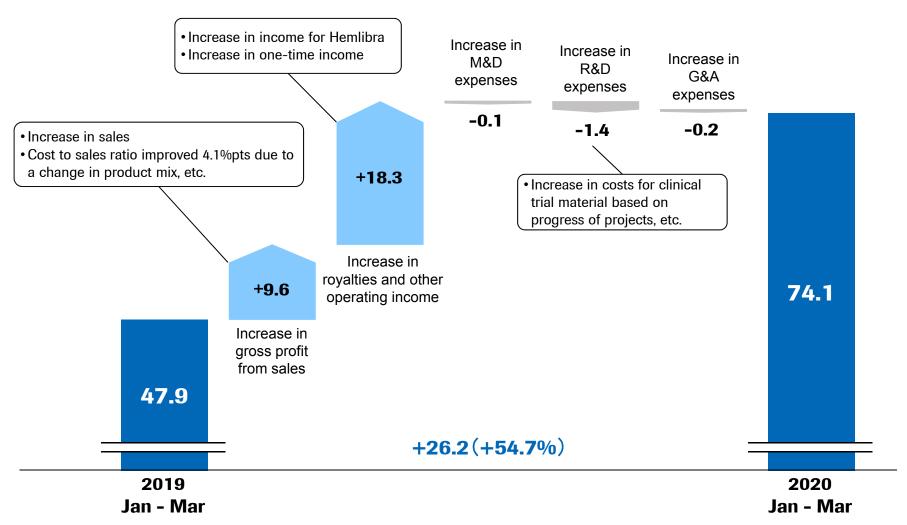
Herceptin	(4.5)	-1.7,	-27.4%
Perjeta	(8.3)	+2.7,	+48.2%
Kadcyla	(2.1)	+0.1,	+5.0%

Year on Year (Core)

Operating Profit Jan - Mar



(Billions of JPY)



vs. Forecast (Core)

Financial Overview Jan - Mar



	Actual	Forec	ast	2019	
(Billions of JPY)	2020 Jan - Mar	2020	Progress	Progress *1	
Revenues	179.4	740.0	24.2%	22.5%	
Sales	144.5	580.0	24.9%	23.4%	
Domestic	101.9	411.6	24.8%	22.7%	
Overseas	42.6	168.4	25.3%	25.4%	
Royalties and other operating income	34.9	160.0	21.8%	17.1%	
Royalty and profit-sharing income	26.4	141.0	18.7%	17.9%	
Other operating income	8.5	19.0	44.7%	13.9%	
Cost of sales	- 61.0	- 252.0	24.2%	24.0%	
(cost to sales ratio)	42.2%	43.4%	-	-	
Gross profit	118.5	488.0	24.3%	21.5%	
Operating expenses	- 44.4	- 213.0	20.8%	21.8%	
Research and development	- 25.0	- 115.0	21.7%	23.1%	
Operating profit	74.1	275.0	26.9%	21.3%	
(operating margin)	41.3%	37.2%	-	-	
Net income	52.7	201.0	26.2%	21.7%	
FDC (IDV)	00.11	122.00	-	01.00/	
EPS (JPY)	96.11	*2 366.00	26.3%	21.6%	

Domestic sales

Progress nearly in line with forecast, reflected impact of NHI drug price revisions in Apr 2020

Royalty and profit-sharing incomeProgress nearly in line with forecast

Other operating income

Progress nearly in line with forecast

Operating expenses

Progress slightly lower than forecast

^{*1} Jan – Mar progress versus Jan – Dec

^{*2} Amount excludes effect of the stock split. Ordinary share will be split three-for-one, on July 1, 2020 as the effective date.

vs. Forecast (Core)

Sales Jan - Mar

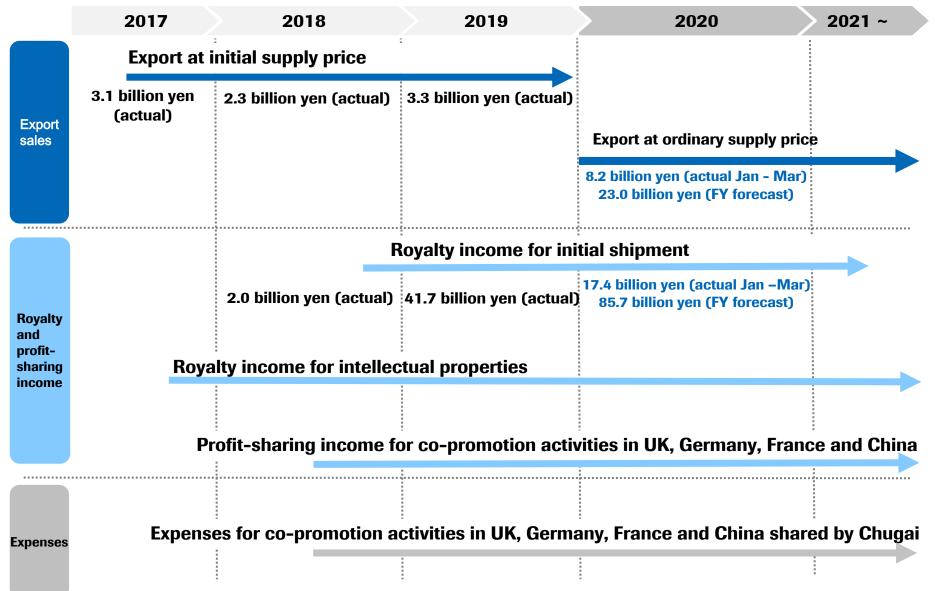


	Actual	Fore	cast	2019		Actual	Fored	ast	2019
(Billions of JPY)	2020	2020	D	D *	(Billions of JPY)	2020	2020	Dua muses	D *
	Jan - Mar	Jan - Dec	Progress	Progress *		Jan - Mar	Jan - Dec	Progress	Progress *
Sales	144.5	580.0	24.9%	23.4%	Renal	6.7	24.7	27.1%	22.8%
Domestic	101.9	411.6	24.8%	22.7%	Mircera	4.2	15.4	27.3%	22.5%
Oncology	54.7	228.8	23.9%	21.6%	Oxarol	1.4	5.2	26.9%	23.2%
Avastin	20.4	73.3	27.8%	22.4%	Others	15.5	68.0	22.8%	28.1%
Tecentriq	7.8	44.6	17.5%	18.0%	Hemlibra	7.9	42.1	18.8%	10.7%
Perjeta	8.3	28.8	28.8%	18.2%	CellCept	2.2	8.4	26.2%	23.7%
Alecensa	5.6	24.8	22.6%	21.3%	Tamiflu(Ordinary use)	0.6	3.4	17.6%	63.5%
Herceptin	4.5	19.2	23.4%	23.2%	Tamiflu(Govt. stockpiles, etc.)	2.6	3.2	81.3%	100.0%
Kadcyla	2.1	11.7	17.9%	22.2%	Foundation Medicine	0.6	4.5	13.3%	-
Rituxan	1.9	6.3	30.2%	26.1%	Overseas	42.6	168.4	25.3%	25.4%
Gazyva	1.0	5.4	18.5%	16.7%	Actemra	24.1	90.8	26.5%	28.7%
Xeloda	1.1	3.1	35.5%	30.0%	Export to Roche	23.5	88.8	26.5%	28.8%
Rozlytrek	0	1.0	0.0%	-	Alecensa	6.2	39.0	15.9%	18.5%
Bone and Joint	24.9	90.1	27.6%	22.3%	Export to Roche	5.9	37.8	15.6%	18.4%
Actemra	9.5	38.2	24.9%	21.5%	Hemlibra	8.6	23.9	36.0%	19.4%
Edirol	8.8	26.1	33.7%	21.8%	Export to Roche	8.2	23.0	35.7%	21.2%
Bonviva	2.1	9.7	21.6%	23.7%	Neutrogin	2.5	9.1	27.5%	25.3%

^{*} Jan - Mar progress versus Jan - Dec

Outline of Hemlibra Sales to Roche





Impact on Business and Performance Due to the Spread of New Coronavirus Infection



- Delay in domestic and overseas market launches and penetration of new products
- Impact on schedule for regulatory affairs such as regulatory applications and reviews, etc.
- Impact on schedule for the launch and ongoing clinical trials
- Readjustment of timing for phase transitions in discovery research activities
- Readjustment of schedule for capital investments
- One-time costs incurred for crisis response
- Actions to maintain stable product supply for domestic and overseas
- Initiation of clinical trials of Actemra by Chugai and Roche Group for COVID-19 pneumonia





Appendix

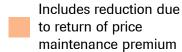
Rate of NHI Drug Price Revisions

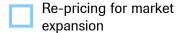


	2010	2010	2020	
(%)	2018	2019 Oct*	2020	Notes
Domestic Coles	Apr	Oct*	Apr	
Domestic Sales	- 6.7	- 0.2	- 9.2	
Oncology		_		Apr 2016: -10.9, Special re-pricing for market
Avastin	-	+1.9	- 15.7	expansion
Tecentriq		+1.9	-	Apr 2012: -8.8, Re-pricing for market expansion
Perjeta	-	+1.9	- 15.0	
Alecensa		+1.9	_	
Herceptin	- 20.4	- 2.8	- 3.8	Apr 2010: -18.0, Re-pricing for market expansion
Kadcyla	- 1.5	+1.9	_	
Rituxan	- 26.2	- 3.5	- 2.2	Apr 2006: -13.1, Re-pricing for market expansion
Gazyva		+1.9	-	
Xeloda	- 0.6	- 3.2	- 27.4	
Rozlytrek		+1.9	_	
Bone and Joint		_		
Actemra	-	+1.9	- 18.5	Apr 2012: -25.0, Re-pricing for market expansion
Edirol	- 1.3	+0.7	- 0.4	
Bonviva	- 4.7	- 2.4	- 0.9	
Renal				
Mircera	- 8.6	- 4.7	- 1.9	Apr 2016: -19.7, Including return of price
Oxarol	- 8.9	- 6.5	- 1.2 ·	maintenance premium
Others				Apr 2018: Including return of price maintenance
Hemlibra		+1.9	- 15.0	premium (dry syrup)
CellCept	- 9.3	- 7.2	- 4.0	Apr 2016: -11.0, Including return of price maintenance premium (capsule)
Tamiflu(Ordinary use)	- 10.6	- 1.9	- 0.4	·

Legend:

Minus sign indicates price reduction, plus sign indicates price increase





^{*} Includes impact of consumption tax increase

IFRS and Core Results Jan - Mar



	IFRS results	Non-core	e items	Core results
(Billion JPY)	2020 Jan - Mar	Intangible assets	Others	2020 Jan - Mar
Revenues	179.4			179.4
Sales	144.5			144.5
Royalties and other operating income	34.9			34.9
Cost of sales	-61.3	+0.3		-61.0
Gross profit	118.2	+0.3		118.5
Operating expenses	-45.7	+0.2	+1.2	-44.4
Marketing and distribution	-15.8		+0.3	-15.5
Research and development	-26.1	+0.2	+0.9	-25.0
General and administration	-3.9			-3.9
Operating profit	72.4	+0.5	+1.2	74.1
Financing costs	-0.0			-0.0
Other financial income (expense)	-0.6			-0.6
Other expense	-0.5			-0.5
Profit before taxes	71.2	+0.5	+1.2	72.9
Income taxes	-19.7	-0.1	-0.3	-20.2
Net income	51.5	+0.3	+0.8	52.7
EPS(JPY)	93.99			96.11

(Billions of JPY)

Non-Core items

Intangible assets
 Amortization +0.4
 Impairment +0.1

Others
 Restructuring expenses +1.2

vs. Forecast (Core)

Impact from Foreign Exchange

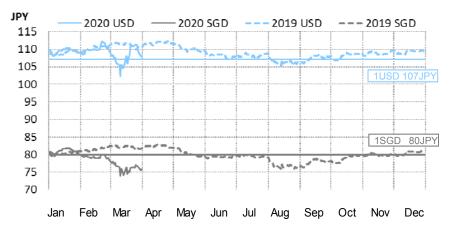


(Billions of JPY)	FX impact Jan – Mar 2020 (FX impact vs. Assumption)		
	+0.3		
Revenues	Sales -0.0 Royalties and other operating income +0.3		
Cost of sales Operating expenses	Cost of sales +0.0 Expenses -0.1		
Operating profit	+0.2		

Actual / Assumption rate* (JPY)	2019 Jan - Mar Actual	2020 Jan -Dec Assumption	2020 Jan - Mar Actual
1CHF	110.52	110.00	112.61
1EUR	125.17	121.00	120.19
1USD	110.18	107.00	109.02
1SGD	81.32	80.00	78.72

Historical exchange rate to the JPY





^{*} Actual: market average exchange rate for the period Jan - Mar

vs. 2019 Year End

Overview of Financial Position



			<u> </u>
(Billions of JPY)	2019 Dec	2020 Mar	Change
Trade accounts receivable	139.6	150.1	+ 10.5
Inventories	168.1	174.4	+ 6.3
Trade accounts payable	-47.7	-51.3	- 3.6
Other net working capital*1	-22.9	-21.5	+ 1.4
Net working capital	237.2	251.6	+ 14.4
Property, plant and equipment	255.6	277.4	+ 21.8
Right-of-use assets	9.7	8.4	- 1.3
Intangible assets	23.5	23.8	+ 0.3
Other long-term assets - net*2	21.0	24.9	+ 3.9
Long-term net operating assets	309.8	334.5	+ 24.7
Net operating assets	547.0	586.1	+ 39.1
Debt	_	_	_
Marketable securities	129.1	134.0	+ 4.9
Cash and cash equivalents	203.9	138.7	- 65.2
Net cash	333.1	272.7	- 60.4
Other non-operating assets - net ^{*3}	-26.1	-4.7	+ 21.4
Net non-operating assets	307.0	268.0	- 39.0
Total net assets	854.0	854.1	+ 0.1
Total assets	1,058.9	1,045.6	- 13.3
Total liabilities	-204.9	-191.5	+ 13.4

Increase in net working capital

Increase in trade accounts receivable due to increase of export to Roche

Increase in long-term net operating assets

Increase in property, plant and equipment due mainly to the investment in Chugai Life Science Park Yokohama

Increase in other non-operating assets - net

Decrease in accrued corporate tax

Ratio of equity attributable to Chugai shareholders

End of March 2020 81.7% End of December 2019 80.6%

FX rate to the JPY (end of period)

	2019 Dec	2020 Mar
1CHF	112.31	112.49
1EUR	121.93	119.13
1USD	108.88	107.83
1SGD	80.72	75.73

^{*1} Other net working capital: accrued receivable, accrued payable, accrued expenses, etc.

^{*2} Other long-term assets - net: long term prepaid expenses, long-term provisions, etc.

^{*3} Other non-operating assets - net: deferred income tax assets, accrued corporate tax, etc.

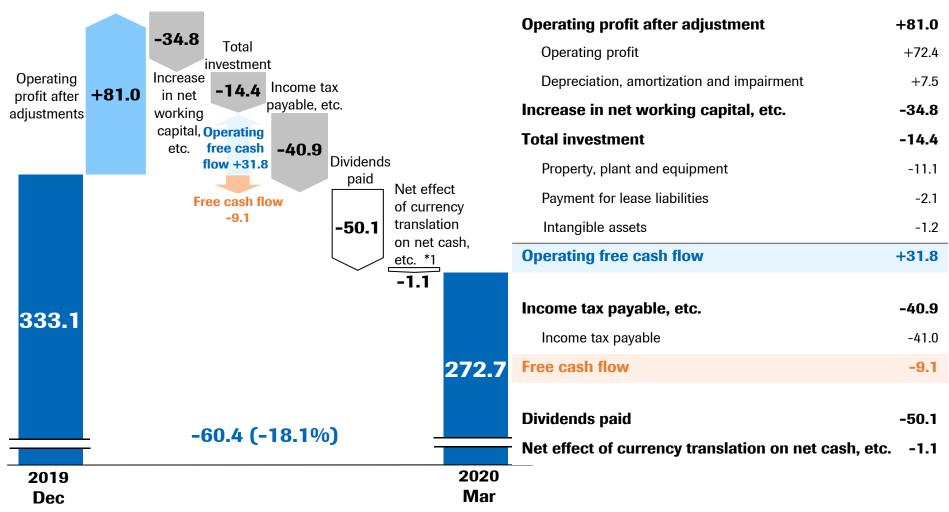
vs. 2019 Year End

Net Cash

(Billions of JPY)



16



^{*1} Net effect of currency translation on net cash, etc. = Transaction in own equity instruments + Purchase of non-controlling interests + Net effect of currency translation on net cash(*2)

^{*2} Results from using different types of exchange rates when consolidating overseas subsidiaries in financial statements, i.e. net cash using end of period exchange rate and free cash flows using average exchange rate. (Chugai defines this term based on International Accounting Standard (IAS) 7 and IAS 21)



Overview of Development Pipeline

Dr. Minoru Hirose Head of R&D Portfolio Management Dept., Project & Lifecycle Management Unit CHUGAI PHARMACEUTICAL CO., LTD.

April 23, 2020

Projects under Development (1)



As of April 23, 2020

			1		S 01 April 23, 2020
	Phase I	Phase II	Ph	ase III	Filed
Oncology	GC33 / codrituzumab - HCC ERY974 - solid tumors RG7421 / cobimetinib - solid tumors RG7802 / cibisatamab - solid tumors RG7828 / mosunetuzumab - hematologic tumors RG7461 (FAP-IL2v) - solid tumors AMY109 - solid tumors * STA551 - solid tumors * RG6026 / glofitamab - hematologic tumors * RG6171 - breast cancer *	OBP-301 - esophageal cancer ★	RG435 / Avastin (Tecentriq combo) - SCLC - RCC - RCC - HCC (adjuvant) RG7440 / ipatasertib - prostate cancer - breast cancer RG7596 / polatuzumab vedotin - DLBCL RG6264 (Herceptin+Perjeta) - breast cancer (Fixed-dose combination, subcutaneous injection)	RG6058 / tiragolumab (Tecentriq combo) - SCLC ★ NSCLC ★ AF802 (RG7853) / Alecensa - NSCLC (adjuvant) RG7446 / Tecentriq - NSCLC (adjuvant) - NSCLC (neoadjuvant) - urothelial carcinoma - RCC - RCC (adjuvant) - early breast cancer - ovarian cancer - HCC (adjuvant) - HNC (adjuvant)	RG3502 / Kadcyla - breast cancer (adjuvant) RG435 / Avastin (Tecentriq combo) - HCC★ RG7446 / Tecentriq - HCC ★
Bone & Joint			NRD101 / Suvenyl (C - knee osteoarthritis/sh	· · · · · · · · · · · · · · · · · · ·	ED-71 / Edirol (China) - osteoporosis

In principle, completion of first dose is regarded as the start of clinical studies in each phase.

★: Projects with advances in stages since January 30, 2020 Letters in orange: in-house projects*

HCC: hepatocellular carcinoma SCLC: small cell lung cancer RCC: renal cell carcinoma DLBCL: diffuse large B-cell lymphoma NSCLC: non-small cell lung cancer HNC: head and neck carcinoma

^{*}Includes projects that Chugai owns / retains domestic and overseas development rights

Projects under Development (2)



As of April 23, 2020

Roche	Roche	Group
-------	-------	-------

	Phase I	Phase II	Phase III	Filed
Renal	EOS789 - Hyperphosphatemia			
Autoimmune	RG7845 / fenebrutinib - rheumatoid arthritis RG7880 (IL-22 fusion protein) - inflammatory bowel disease			
Neurology	RG7935 / prasinezumab - Parkinson's disease GYM329 (RG6237) - neuromuscular disease RG6100 / semorinemab - Alzheimer's disease RG7314 / balovaptan - autism spectrum disorder	RG7906 / ralmitaront - schizophrenia ★	RG1450 / gantenerumab - Alzheimer's disease RG6042 / tominersen - Huntington's disease RG7916 / risdiplam - spinal muscular atrophy (PII/III)	SA237 (RG6168) / satralizumab (JP/US/EU) - NMOSD
Others	PCO371 - hypoparathyroidism AMY109 - endometriosis NXT007 - hemophilia A (PI/II)	SKY59 (RG6107) / crovalimab - PNH (PI/II)	RG7716 / faricimab - DME - nAMD	

In principle, completion of first dose is regarded as the start of clinical studies in each phase.

PNH: paroxysmal nocturnal hemoglobinuria DME: diabetic macular edema

nAMD: neovascular age-related macular degeneration

NMOSD: neuromyelitis optica spectrum disorder

Letters in orange: in-house projects*

★: Projects with advances in stages since January 30, 2020

*Includes projects that Chugai owns / retains domestic and overseas development rights

Key News Flows in Q1 or later



Approved	Rozlytrek	ROS1+ NSCLC	February, 2020
	Alecensa	ALK+ Anaplastic large cell lymphoma	February, 2020
	Rituxan	Thrombotic thrombocytopenic purpura	February, 2020
Filed	Tecentriq + Avastin	Hepatocellular carcinoma	February, 2020
	F1L CDx	Blood based CGP for solid tumors	March, 2020
Dhana	tiragolumab	SCLC	New to Phase 3
Phase	tiragolumab	NSCLC	New to Phase 3
Progress	ralmitaront	Schizophrenia	New to Phase 2
	OBP-301	Esophageal cancer + radiotherapy	P2 domestic study
New to Pipeline	STA551	Solid tumors	P1 study
	AMY109	Solid tumors	P1 study
	glofitamab	Hematologic tumors	P1 study
	RG6171	HR+ Breast cancer	P1 study
Development Discontinued	Tecentriq	Muscle invasive urothelial carcinoma (adjuvant)	P3 study
5	Tominersen	Huntington's disease	Orphan Drug Designation
Designation	Tecentriq + Avastin	Hepatocellular carcinoma	Priority Review Designation
Late-stage		Diff and large Decall Lands and	P2 domestic study
Readouts	polatuzumab vedotin	Diffuse large B-cell lymphoma	(P-DRIVE study)
Medical Conference	risdiplam	Spinal muscular atrophy / SUNFISH study 2nd ISC SMA	
Othorn	nemolizumab	Prurigo nodularis / P2 study	Published in NEJM
Others	Actemra	COVID-19 (coronavirus) pneumonia	P3 study (global/domestic*)

SCLC: small cell lung cancer, NSCLC: non-small cell lung cancer F1L: FoundationOne Liquid, CDx: companion diagnostics, CGP: Comprehensive Genomic Profiling * domestic study in preparation for initiation

Letters in orange: in-house projects**

^{**} Includes projects that Chugai owns / retains domestic

and overseas development rights

Clinical Trials of Actemra for COVID-19 Pneumonia



Roche Roche Group

Global P3 COVACTA study

- Global study conducted by Roche with a target of about 330 adult patients hospitalized with severe COVID-19 pneumonia
- Randomized, double-blind, placebo-controlled Phase III study to evaluate the safety and efficacy of Actemra plus standard of care vs placebo plus standard of care
- Primary and secondary endpoints include clinical status, mortality, mechanical ventilation and intensive care unit (ICU) variables

Domestic P3 study

- Domestic study in preparation for patients hospitalized with severe COVID-19 pneumonia (clinical trial notification has been filed)
- Aiming at starting enrollment as soon as possible

Nemolizumab (1/2) Pathology of Prurigo Nodularis



- Multiple, symmetrically distributed, highly pruritic, hyperkeratotic, erosive or crusted nodules and papules
- Limited options to treat severe chronic itch and skin lesions, resulting in an impaired QOL



(a) Nodules in bilateral distribution on arms and (b) legs in a patient diagnosed with prurigo nodularis. Ref: Kwon C. D., *et al. Medicines* **2019**, *6*(4), 97;

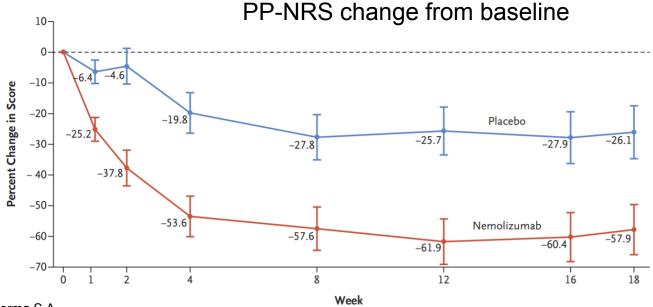
Nemolizumab (2/2)



Moderate-to-Severe Prurigo Nodularis Phase 2 Trial*1 (NEJM Publication)



- Achieved primary endpoint: improvement of PP-NRS *2 at week 4
 Nemolizumab: -53.0%, Placebo: -20.2% (p<0.001)
- IGA*3 0/1 (clear / almost clear) success rate at 18 week*4
 Nemolizumab: 41.7%, Placebo: 9.3%
- Well tolerated in patients with moderate-to-severe prurigo nodularis



^{*1} Sponsored by Galderma S.A.
*2 PP-NRS (Peak Pruritis Numerical Rating Scale): 0 (no itch) – 10 (worst itch imaginable)

^{*3} IGA (investigator's global assessment): 0 (clear), 1 (almost clear), 2 (mild), 3, (moderate), 4 (severe)

^{*4 10} weeks after the last administration

OBP-301 / Telomelysin (1/2)

CHUGAI Roche Roche Group

Oncolytic Viral Immunotherapy created by Oncolys BioPharma

Mode of Action

Source: Slides partly modified from Chugai 2019 Q1 results conference call

- OBP-301 is a genetically modified type 5 adenovirus which can specifically replicate in and destroy cancer cells
- OBP-301 may induce strong anti-tumor activity after causing oncolysis by specific replication in cancer cells with high telomerase activity
- OBP-301 has extremely low replication ability in normal cells

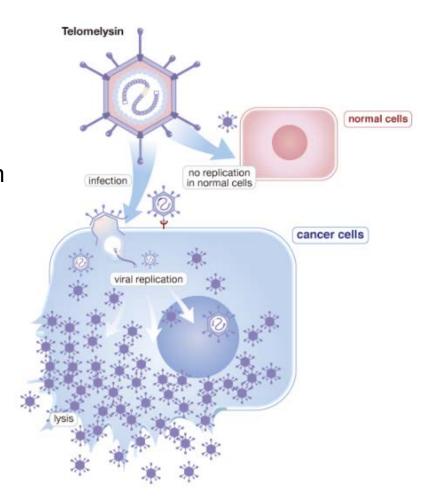
Major Developments in Progress

[Japan]

- <u>Esophageal cancer</u> (combo with radiotherapy): Phase II
- SAKIGAKE designation: April 2019

[Overseas]

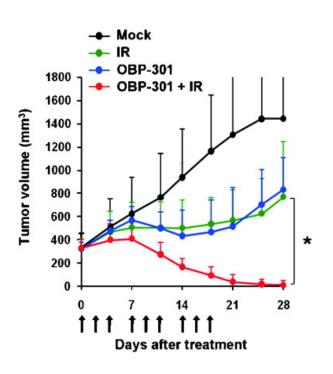
- <u>Hepatocellular carcinoma</u> (monotherapy): Phase I/II (South Korea, Taiwan)
- Esophagogastric junction cancer (immune checkpoint inhibitor combo): Phase II (US)



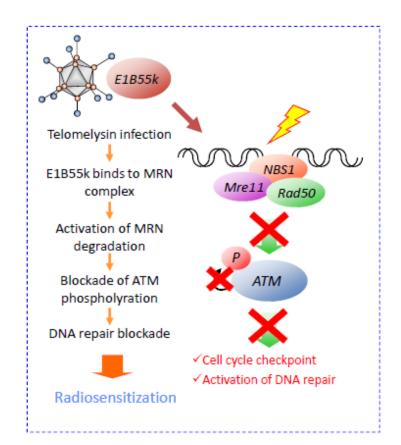
OBP-301 / Telomelysin (1/2) Synergy of Combination with Radiotherapy



Radiosensitization effects led by blocking the DNA damage response



Model mouse of human esophageal cancer



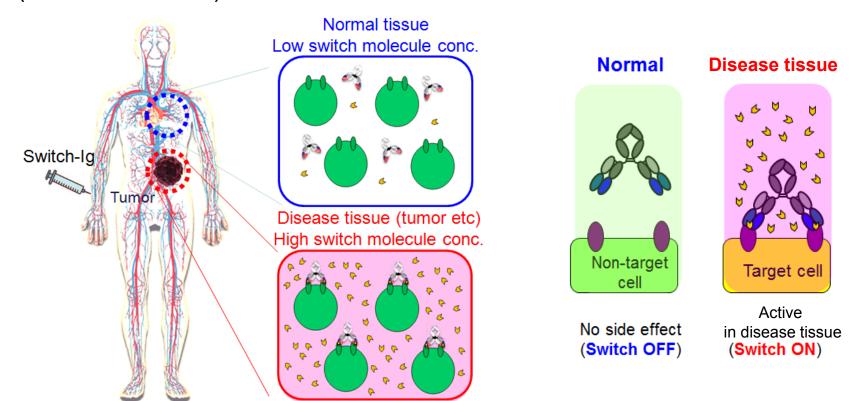
Cancer Res. 2010 Nov 15;70(22):9339-48

Cancer Res. 2010 Nov 15;70(22):9339-48

STA551



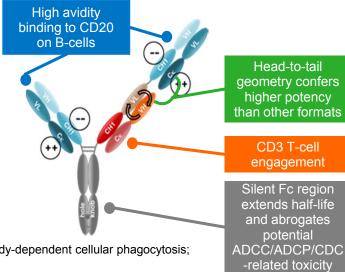
- Project with Switch AntibodyTM technology developed by Chugai
- "Switch Antibody™" binds to the antigen only in the presence of high concentration of disease tissue specific small molecule metabolite (switch molecule)



Glofitamab (RG6026; CD20-TCB) Humanized bispecific monoclonal antibody targeting CD20 and CD3



- Induces rapid T-cell activation, proliferation and cytokine release, leading to target cell lysis
- 2:1 (CD20:CD3) format offers
 - strong activity in presence of residual anti-CD20s from previous lines of therapy
 - ability to combine with other anti-CD20s, including obinutuzumab pre-treatment to control/mitigate CRS
- Open-label Phase I dose-escalation study of glofitamab in R/R NHL patients is ongoing in overseas: NP30179 (NCT03075696)



CRS, cytokine release syndrome, R/R NHL, Relapsed-Refractory Non-Hodgkin lymphoma

ADCC, antibody-dependent cell-mediated cytotoxicity; ADCP, antibody-dependent cellular phagocytosis; CDC, complement-dependent cytotoxicity

Overview of Development Pipeline

Projected Submissions (Post PoC NMEs and Products)

as of April 23, 2020



NME line extension Filed in-house* **KADCYLA** satralizumab **AVASTIN** in-licensed (Roche) (RG3502) (SA237/RG6168) (RG435) **Breast Cancer NMOSD** NSCLC: non-small cell lung cancer HCC (adjuvant) (US) RCC: renal cell carcinoma HCC: hepatocellular carcinoma HNC: head and neck carcinoma **EDIROL** satralizumab DLBCL: diffuse large B-cell lymphoma (ED-71) (SA237/RG6168) NMOSD: neuromyelitis optica spectrum disorder Osteoporosis NMOSD nAMD: neovascular age-related macular degeneration (China) (EU) FDC: fixed-dose combination tominersen sc: subcutaneous injection (RG6042) SCLC: small cell lung cancer satralizumab **Huntington's TECENTRIQ** *Includes projects that Chugai owns / retains domestic and (SA237/RG6168) Disease overseas development rights (RG7446) NMOSD HCC (JP) gantenerumab ipatasertib faricimab (RG1450) (RG7440) (RG7716) Alzheimer's **Breast Cancer nAMD Disease** faricimab **TECENTRIQ TECENTRIQ** tiragolumab (RG7716) (RG7446) (RG7446) (RG6058) **Diabetic Macular Ovarian Cancer** RCC (adjuvant) NSCLC Edema risdiplam **AVASTIN** RG6264 **AVASTIN OBP-301 ALECENSA** (RG7916) (AF802/RG7853) (FDC, sc) (RG435) (RG435) (Telomelysin) **Spinal Muscular HCC** (adjuvant) **Esophageal Cancer NSCLC** (adjuvant) RCC **Breast Cancer Atrophy SUVENYL** tiragolumab ipatasertib **TECENTRIQ TECENTRIQ** AVASTIN (NRD101) (RG6058) (RG7446) (RG7440) (RG7446) (RG435) Knee Osteoarthritis RCC /Shoulder Periarthritis **Prostate Cancer** HCC (adjuvant) SCLC SCLC (China) polatuzumab **TECENTRIQ TECENTRIQ TECENTRIQ TECENTRIQ TECENTRIQ** (RG7446) vedotin (RG7446) (RG7446) (RG7446) (RG7446) Urothelial (RG7596) Early **NSCLC** (adjuvant) HNC (adjuvant) NSCLC (neoadjuvant) Carcinoma **Breast Cancer** DLBCL

2022 2023 and beyond 2021 2020

Appendix: Dysregulated immune response

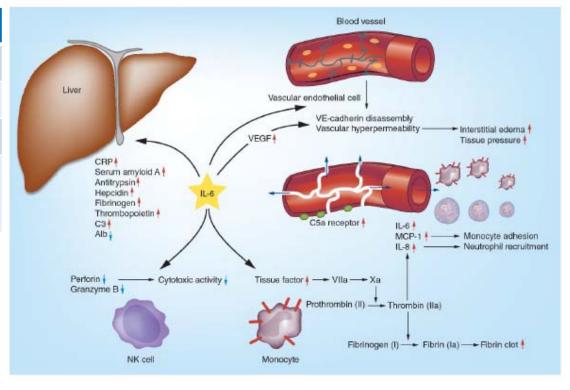


- Some viral infections can lead to an accentuated immune response¹
- Features of critically ill patients infected with COVID-19 suggest the presence of an accentuated immune response resulting in adult respiratory distress syndrome and multi-organ failure ²⁻⁴

Clinical	Laboratory
Fever	Hyperferritinemia
Confusion	Lymphopenia
	Prolonged prothrombin time
	Elevated interleukin (IL)-6, lactate dehydrogenase, C- reactive protein, soluble CD25

- 1. Crayne CB, et al. Front Immunol. 2019;10:119
- 2. Chen N, et al. Lancet. 2020;395:P507-P513.
- 3. Chen L, et al. Chin J Tuberc Respir Dis. 2020;43:E005.
- 4. Wang D, et al. JAMA. 2020;323:1061-1069.

Figure: Tanaka T, et al. Immunotherapy. 2016;8(8):959-970. © 2016 Future Medicine I td.



Contacts: Corporate Communications Dept.

Media Relations Group

Tel: +81 (0)3-3273-0881 Fax: +81 (0)3-3281-6607

e-mail: pr@chugai-pharm.co.jp

Tomoko Shimizu, Hiroshi Araki, Chisato Miyoshi, Yayoi Yamada, Shumpei Yokoyama

Investor Relations Group

Tel: +81 (0)3-3273-0554 Fax: +81 (0)3-3281-6607

e-mail: ir@chugai-pharm.co.jp

Toshiya Sasai, Takayuki Sakurai, Tomoyuki Shimamura, Sachiyo Yoshimura