4583 Chiome Bioscience

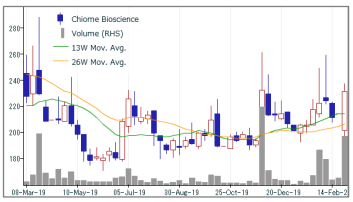
Sponsored Research
March 2, 2020

Sessa Investment Research

INITIATION

Key Indicators	
Share price (3/2)	211
YH (20/3/2)	262
YL (19/6/4)	171
10YH (13/1/29)	5,320
10YL (18/1/4)	170
Mkt cap (¥ bn)	7.02
EV (¥ bn)	4.92
Shares out. (mn)	33.3
ADVT (¥ mn, mo avg)	435
FY12/20 P/E (CE)	—
FY12/19 P/B (act)	2.70x
Net cash/mkt cap	30.0%
Shr eqty ratio	92.6%
Current ratio	17.6x

Share price 52 weeks



Source: SPEEDA

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Bio-venture pursuing drug discovery that meets unmet needs with unique antibody production technology

EXECUTIVE SUMMARY

The attractiveness of Chiome Bioscience could be summarized in the following 3 points.

I. There is an abundance of events expected to be realized over the next several years, such as progress in development of 2 focus antibody drugs, revenue milestones for licensed-out products and licensing-out contracts etc.
II. There is large room for share price appreciation from the current undervalued level. Based on a DCF-method calculation of company value applying adjusted success probabilities to future cashflows from just 3 drugs: CBA-1205, LIV-2008 and BMAA, combined PV works out to USD 105mn (¥11.4 bn @109), substantial upside from current market cap of ¥7.0bn.
III. It has a business model where long-term growth can be expected from a clear business strategy, focus on markets with high growth expectations for antibody drugs and cancer, and aiming to expand the pipeline based on the research results of Japanese academia.

In 2017, management changed the company's direction from focusing on Licenseout Platform Technology buisness, which earns upfront fee and annual fees, to Drug Discovery and Development Business, which develops it own drugs. The seeds have been sown, and the results of this development that was initiated over the past 2 years is entering the recouping phase over the next several years. Chiome's 2 focus in-house developed drugs, CBA-1205 and CBA-1535, are in preparation for clinical trials, set to commence Phase I in 2020-21. In addition, milestone revenue for licensed-out product ADCT-701 based on progress in development, as well as the trends for LIV-2008 under consideration for licensing-out and licensing-out of BMAA under contract option are worth noting, and there are many potential drivers to have a positive impact on the share price. The share price has steadily declined from the 462 level at the begin of 2017 into the range of 171–289 in 2019. It will be quite interesting to see the trend over the next several years on whether clues will be found to attract investor interest.

Table of Contents

❶ Chiome Bioscience Earnings Trend (Non-Consolidated)

JPY mn, %	Net sales	R&D expense	Operating profit	Cash and deposits	Equity ratio	CFO	CFI	CFF
FY12/15	280	828	(1,269)	1,301	92.2%	(1,245)	(1,780)	124
FY12/16	252	626	(1,042)	4,553	94.5%	(969)	1,988	1,433
FY12/17	259	592	(887)	4,027	94.6%	(867)	(137)	478
FY12/18	212	1,230	(1,539)	2,328	93.5%	(1,688)	—	(10)
FY12/19	447	1,299	(1,401)	2,105	92.6%	(1,537)	(26)	1,341

❷ Key Questions

◉ The ultimate success for Chiome is bringing a product to market, and from the perspective of probability theory, the company likely needs 10 products under development in Phase 1. In addition to the 3 products in preparation for Phase 1, can the company expand its pipeline and satisfy that level?

◉ The performance of bio-venture companies can be measured by the progress of products under development and the conclusion of contracts, and Chiome's contracts with 4 major pharmaceuticals makers are a positive factor. Going forward, in promoting the development of CBA-1205, CBA-1535 and ADCT-701, and in securing the conclusion of licensing-out contracts for LIV-2008 and BMAA, can the company show further results?

◉ Since bio-venture companies require major expenses for drug development over the long term, which often requires financing that results in dilution of shares, maintaining the share price is extremely important. How can Chiome get its depressed share price up and maintain higher prices?

❸ Business Model

Chiome Bioscience uses the ADLib® System and other antibody generation technologies to create antibody drug candidates, and it is engaged in Drug Discovery and Development Business and Drug Discovery Support Business.

Drug Discovery and Development Business

Drug Discovery and Development Business is a business model generally deployed by companies with pipelines which conducts exploratory research from antibody drug research in disease areas with high unmet needs, especially cancer, to early clinical trials, and then licenses them out to pharmaceutical companies. Recouping investments is a function of raising value through moving forward development of antibody drugs, and then licensing them out. In many cases licensing out is commonly conducted after Phase 2 when value is increased sharply, but Chiome's policy is to license them out from non-clinical (pre-clinical development) to after Phase 1. Up until Phase 1, the risk of development failure is low, however the value of the development candidate is also relatively low. Since cancer has high unmet needs, it is an attractive disease area. Monoclonal antibody modality has already established clinical applications, and although it lacks the innovativeness such as that of gene therapy, it has a high degree of accuracy.

Drug Discovery Support Business

Drug Discovery Support Business is engaged in research on consignment for pharmaceuticals companies, providing the production of antigens and antibody discovery-related services. Income is basically consignment fees, but depending on the contract, royalty income post-launch can also be expected. Although income from this business is not large, there is also the aspect of satisfying the TSE Mothers requirement for net sales of ¥100mn to remain listed.

Chiome's strength

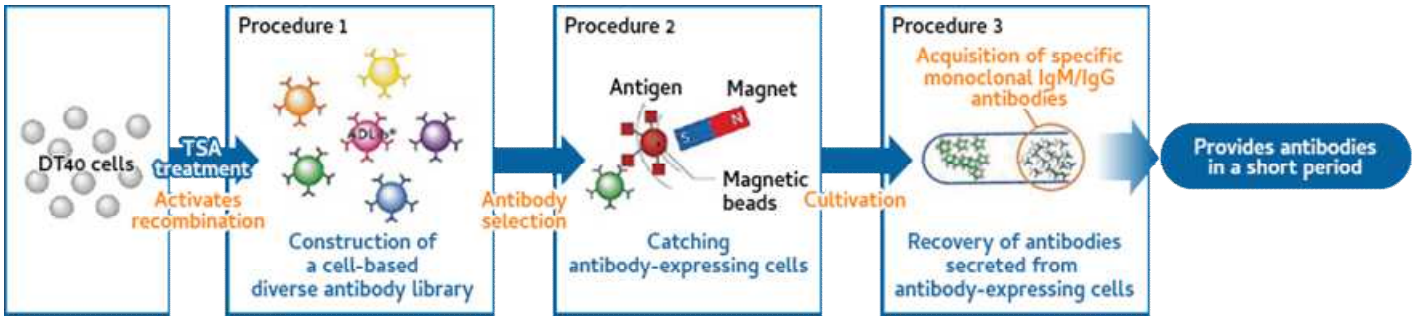
Chiome's strength lies in its ability to generate antibody development candidates. An antibody drug is a drug whose principal component is an antibody whose main function is the immune function of a living organism, where it is possible to pinpoint target an antigen that is specifically expressed in disease-related cells. As a result, there is the benefit of lower risk of damaging normal healthy cells compared with conventional low molecular weight drugs. The top 5 drugs ranked by sales in 2017 global pharmaceutical sales are antibody drugs, and today many firms are working on antibody drug development.

In addition to the patent-protected ADLib® System, Chiome's development capabilities are deployed through multiple technologies for antibody generation including the Hybridoma Method, B Cell Cloning using chickens, and method for producing multi-specific antibodies obtained from Biotecnol Ltd. (UK). The ADLib® System is a platform which facilitates obtaining antibodies in a short time period, and it uses DT40 cells derived from chicken B cells, which are artificially activated by drugs, and it uses a library that produces a wide variety of monoclonal antibodies in a short time in vitro. In addition, the Human

ADLib® System replaces DT40 cells with human antibody genes, which facilitates obtaining human antibodies without going through a humanization process.

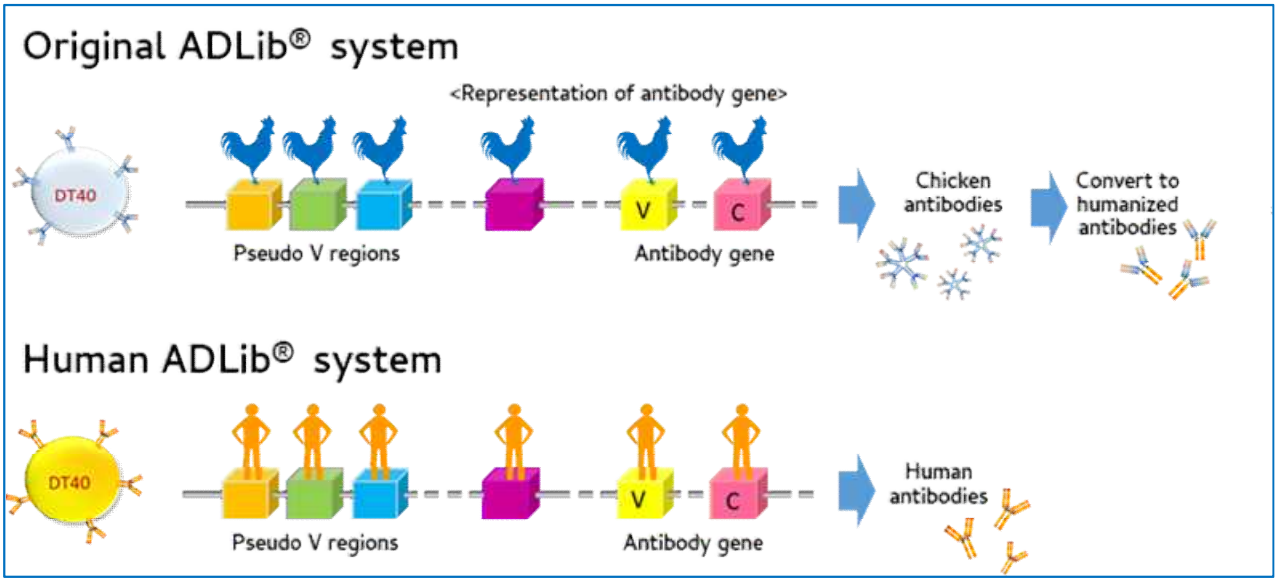
A feature of this is the rapidity of the process which enables determination of a target-specific antibody in 7 to 10 days, compared with the Hybridoma Method which takes 6 months. All of the 40 researchers, including 21 Ph.D. holders, have more than 10 years of drug discovery experience, and together with know-how accumulated in-house, such as antigen preparation necessary for antibody production, support Chiome's technology. Also enthusiastic in pursuing new technologies, in Dec-2018, Chiome acquired multi-specific antibody technology Tribody™ from Biotecnol Ltd. (UK) through an asset purchase agreement, has taken equity stakes in Transchromosomics Inc. (Tottori Prefecture) which develops fully human antibody producing animals, and in EVEC Inc. (Sapporo) which develops antibody drugs from peripheral blood (human blood lymphocytes), as well as focusing on drug discovery targeting antibody drug conjugates (ADCs) and G-protein coupled receptors (GPCRs).

Overview of ADLib® antibody generating system



Source: company website

Overview of Human ADLib® System



Source: company website

❹ Current Business Conditions and Outlook

The change in business focus from 2017 has begun to produce results, and in-house developed products and licensing out negotiations are expected to progress over the next several years.

Regarding in-house development, the company is focusing on the two first-in-class drugs CBA-1205 and CBA-1535, aiming to enter Phase 1 trials in 2020-21. It is worth noting the company plans to obtain data indications for not only safety but also efficacy in Phase 1, and value of the development candidates will likely rise if it obtains favorable data results.

CBA-1205 expected to start Phase 1 clinical trials

CBA-1205 is an ADCC (antibody-dependent cellular cytotoxicity) enhanced antibody for target DLK-1, aiming at an indication for liver cancer, which also has potential for lung cancer. Development is progressing on schedule, and the company is considering nonclinical safety trials and clinical trial production for clinical development, planning to start Phase 1 in Japan in 1H 2020. This is a development candidate of LivTech Inc. which Chiome acquired through absorption merger in July-2015. There are 782,000 annual deaths globally from liver cancer, the 4TH highest cause among cancer disease, and unmet needs remain high. Lenvima®, which was approved by the FDA in 2018, is expected to have global sales of $1,290mn for liver cancer in 2024, and likely provides one reference for the market size.

CBA-1535 preparing for clinical trials in the UK

CBA-1535 is multi-specific antibody for target 5T4xCD3x5T4 using Tribody™ technology. The indications are for malignant mesothelioma, lung cancer and breast cancer, all of which have high unmet needs. The 5-year survival rate for malignant mesothelioma is the lowest among cancer types, with only 6.6%. Annual global deaths from lung and breast cancer are 1,800,000 no.1 cause) and 62,700 (no.6 cause), respectively. This development candidate was acquired through an asset purchase agreement from Biotecnol Ltd. (UK) in Dec-2018. Currently it is in preparation for clinical trial production, planning to start Phase 1 in the UK in 2021. The company has decided to consign manufacturing of the clinical trials drug being investigated to Swiss firm Celonic AG, which has extensive experience in CMC (Chemistry, Mfg. and Controls) development, and is scheduled to begin Phase 1 from 2H 2021. Provided development progresses smoothly, Tribody ™ technology and multi-specific antibody for target 5T4xCD3x5T4 are expected to become first in class. Global sales of Opdivo® for malignant mesothelioma in 2019 are estimated at $7.1bn.

LIV-2008 aiming for early licensing out

LIV-2008 and BMAA which are in the non-clinical stage are focusing on licensing out activities, and they are expected to be realized.

LIV-2008 is an antibody for target TROP-2 developed for expected indications for breast, colon, pancreatic and prostate cancers. Competing products are leading, and since approval in the US for Immunomedics ADC antibody IMMU-

132 (Sacituzumab Govitecan) for target TROP-2 is imminent, and Daiichi-Sanko ADC antibody DS-1062 for target TROP-2 is in Phase 1, the company adopted a strategy of early licensing out instead of in-house development for LIV-2008. Currently 3 firms have concluded MTAs (material transfer agreements), each considering non-clinical tests, and licensing out negotiations are expected to proceed depending on results. Based on the results of leading development candidates, while the mode of action (describes a functional or anatomical change resulting from the exposure of a living organism to a substance) is attractive, early development has been a negative. This development candidate was created by LivTech Inc.

BMAA being evaluated by overseas biotech companies

BMMA is an antibody for target SEMA3A created by Chiome's ADLib® System. Chiome executed a Collaborative Development License and Exclusive Option Agreement with Canada's SemaThera Inc. in Mar-2018, which is currently under evaluation, and a decision on moving to a formal contract is expected soon. It is worth noting that global sales for Eylea®, which is indicated for diabetic retinopathy are estimated at $4.1bn.

First milestone revenue with ADCT-701

In accordance with development progress for licensed out development drug ADCT-701, the company received its first milestone revenue payment of $250,000 in Nov-2019, booking it as sales. Limited to development of an ADC (antibody drug conjugate) for target DLK-1 (LIV-1205), Chiome entered into a license agreement in Sep-2017 with Switzerland-based ADC Therapeutics SA. Regarding the economic terms of the deal, the total value of contract amount, development and sales milestones is ¥9bn, and royalties are not disclosed. Currently, it has almost completed safety testing etc. to move to clinical trials, and start Phase 1 in the US in 2020.

A second diagnostic product is scheduled to be launched in Japan in 2019 from the licensing out of ADLib® System technology to Fujirebio. The first product is a diagnostic kit for measuring vitamin D, which has been launched in Japan and Europe. Although royalty income can be expected in accordance with sales, it is likely to be small compared to pharmaceuticals.

Drug discovery support business revised up

In Drug Discovery Support Business, the company has secured contracts with 4 major Japanese pharmaceuticals companies, which are currently ongoing. Net sales are strengthening, with FY12/18 net sales of ¥210 million basically doubling to ¥417 million in FY12/19. Initial guidance for ¥320 million was later revised up to ¥400 million, and actual results came in ahead of revised guidance. Initial guidance for FY12/21 is ¥480 million (+15.1% YoY). Revenue for this business is basically consignment fees, however there are some contracts close to those of Drug Discovery and Development Business which expect future royalty income. Management intends to increase the weight of the latter going forward.

Status of Drug Discovery and Development Pipeline

Out-Licensed Product

Code	Target	Therapeutic Area	Basic research, Drug Discovery	Preclinical Study	Clinical Trials	Partner
ADCT-701 (LIV-1205 ADC)	DLK-1	Oncology /ADC				ADC THERAPEUTICS

Pipelines

Project	Target	Therapeutic Area	Basic research, Drug Discovery	Preclinical Study	Clinical Trials	Status
CBA-1205 (ADCC enhanced)	DLK-1	Oncology				Developing in-house
CBA-1535 (Tribody)	5T4×CD3 ×5T4	Oncology				Developing in-house
LIV-2008 /2008b	TROP-2	Oncology				Licensing opportunity
BMAA	SEMA3A	DME, Others				SemaThera (Exclusive option agreement)
Discovery PJ (6)	Undisclosed	Oncology infectious/ rare diseases	A new patent application for oncology PJ has been filed			–

Future Outlook

- CBA-1205 : Submit IND application in the first half of 2020.
- CBA-1535 : CMC development is planned with the timeline to submit CTA in the UK in the second half of 2021 onwards.
- BMAA : Decision to exercise/not exercise the option right expected in 2020 by SemaThera.
- LIV-2008 : Aiming for Licensing.
- Discovery projects : Aiming for stage advancement and new patent application.
- ADCT-701: ADC Therapeutics is continuing preparations for an IND.

Source: Supplement Documents for Financial Results FY12/19

❺ Growth

There are many events that can be expected to impact the share price in the short-term, and generally, sustainable growth can be expected over the medium-term.

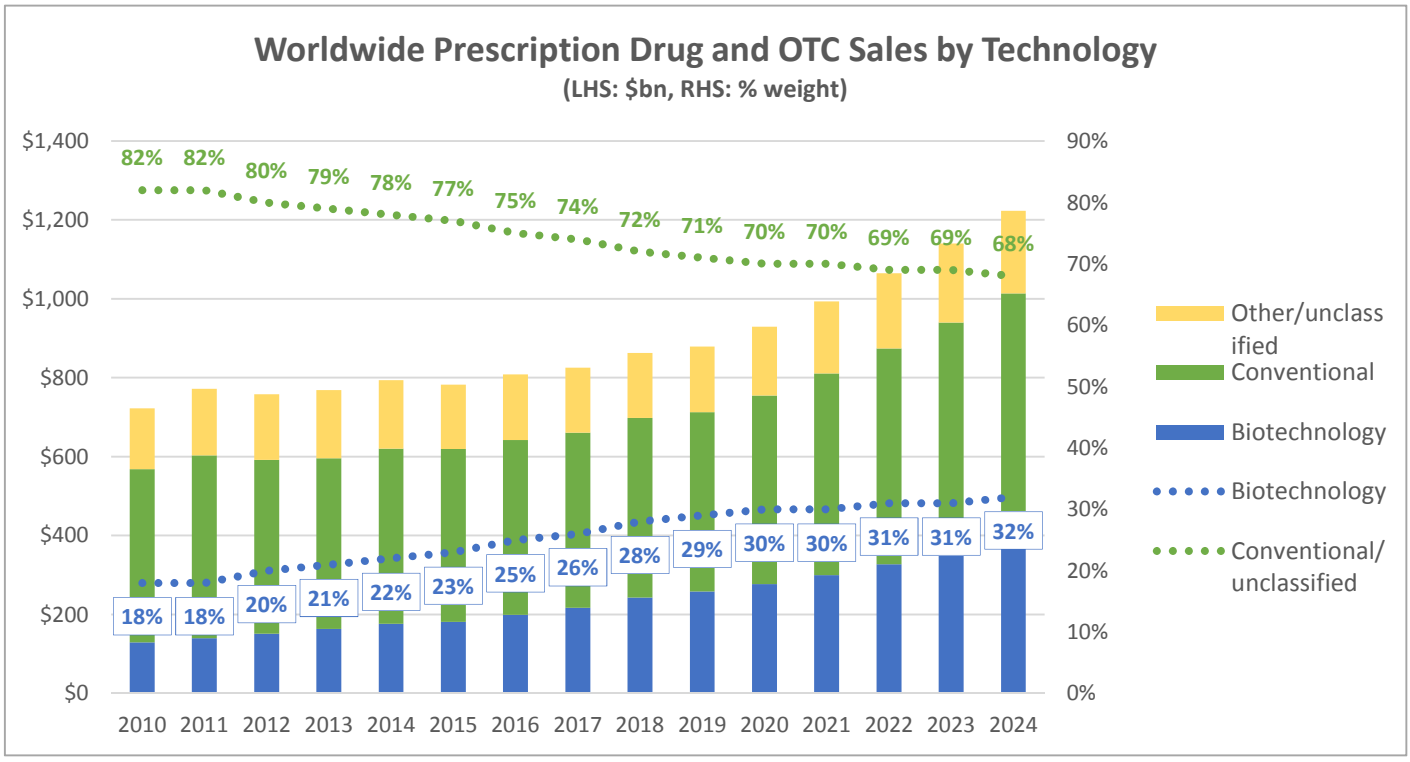
Short-term catalysts

In the short-term, it is positive there are many events that can impact the share price when realized such as progress in development of the two focus development drugs, concluding contracts for products under consideration for licensing out etc. In particular, favorable data indications for safety and efficacy in Phase 1 for focus development drugs CBA-1205 and CBA-1535 will raise their value, raising the likelihood of securing licensing out contracts and continuing their length, invigorating introduction activities by pharmaceuticals companies, ultimately resulting in sizable economic terms. However, these are assets in the early stage of non-clinical – Phase 1, which may rule out potential for huge deals.

Medium-term challenges

Over the medium-term, expanding the pipeline and securing innovative technologies will be key. One positive is always being engaged in over 10 joint research projects with Japanese academia, and if the pipeline is constantly expanded, prospects will gradually open up. Because Japanese academia prefers joint research projects with Japanese companies due to language and human resource constraints, it makes senses that Chiome as a leader in antibody drug technology is selected as a partner in Japan. Japanese academia has a high level of research proficiency, and it has been pointed out for many years that domestic industry has not fully taken advantage of this.

As an example, blockbuster Opdivo® (nivolumab), is the result of Nobel Prize laureate Professor Tasuku Honjo's research on immune checkpoint inhibitors, however since there was no antibody drug technology held by joint research partner Ono Pharmaceutical, Medarex Inc. of the US created the drug. There are expectations for results going forward whether Chiome can link the discoveries of Japanese academia to the early appearance of blockbuster drugs. Also, regarding technology, while having the ADLib® System and antibody generation technologies as its core platform, we want to follow whether the company can secure the innovative technologies required to compete with US and European bio-venture firms going forward. Acquiring multi-specific antibody technology Tribody™ from Biotecnol Ltd. (UK), and taking equity stakes in chromosome engineering technology firm Transchromosomics Inc. which develops fully human antibody producing animals, and in EVEC Inc. which develops antibody drugs from peripheral blood (human blood lymphocytes), are positives.

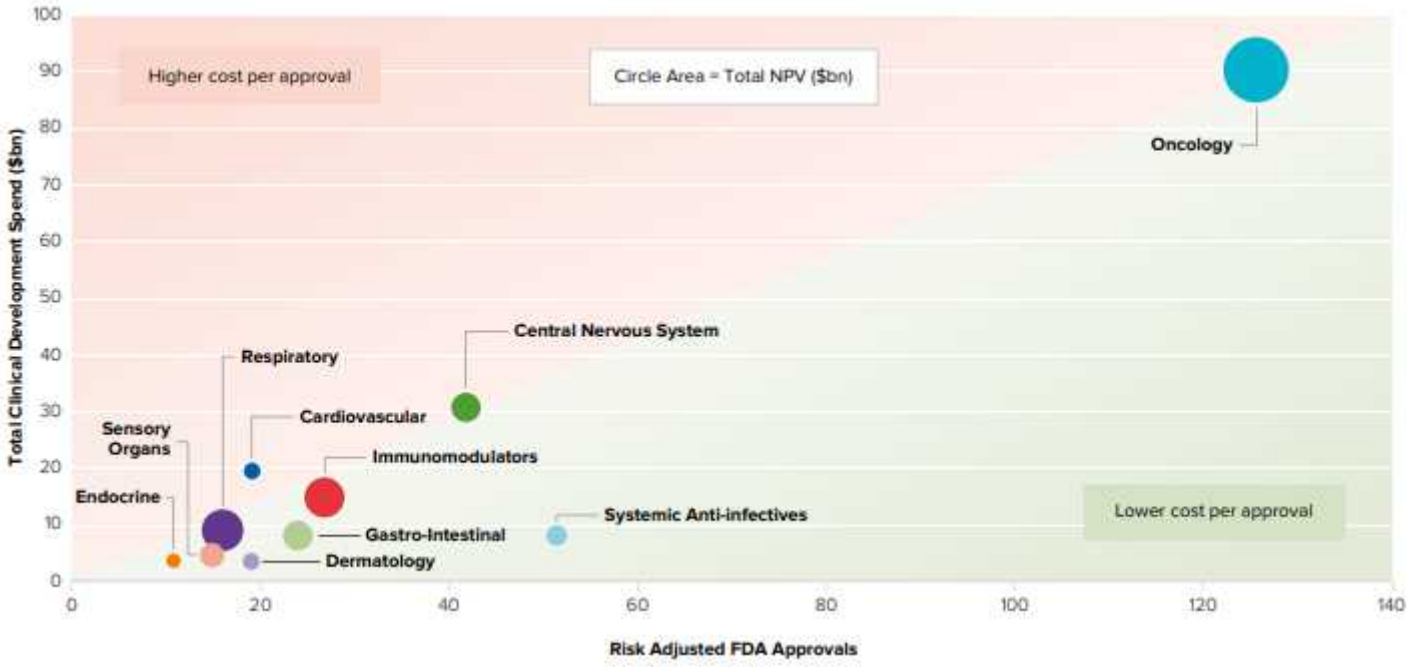


Source: EvaluatePharma® World Preview 2019, Outlook to 2024

The graph above by Evaluate Pharma shows the trend of the worldwide prescription drug and OTC sales market and estimates through 2024 by technology. The share of Chiome's focus area of biotechnology is rising from 28% in 2018 to an estimated 32% in 2024, and if you narrow this down to the top 100 drugs, it will basically be evenly split with conventional drugs by 2024.

The graph on the next page shows a comparison of development costs and returns in the applicable area. In the field of oncology, despite high development costs, high FDA approval rates and high returns have been shown. The cost of clinical development per approved drug with a new active ingredient is $ 700 million, and the oncology area is one of the areas which has the highest cost of new drug development. However, deploying this development expense can generate net present value (NPV) of over 100 times higher to $78.2 billion. This is an indication that pharmaceutical companies are keen to pursue development in this area with high returns, which is a favorable situation for Chiome which is targeting licensing out. At the same time, the challenge for Chiome is whether it can cultivate a development product more attractive than the many other firms competing to develop clinical trials cancer drugs being investigated.

Clinical Development Spend vs Risk Adjusted FDA Approvals by Therapy Area



Source: EvaluatePharma® World Preview 2019, Outlook to 2024

❻ Risk Factors

- There is risk of development failure or delays. Taking into account historical values as a reference, the success rate of Phase 1 is 63.2%, for Phase 2 is 30.7% and for Phase 3 is 58.1%, with the probability of reaching approval from Phase 1 at 9.6%. Even if CBA-1205, CBA-1535 and ADCT-701 proceed smoothly to Phase 1, subsequent development contains uncertainty. Delays in development can occur for a variety of reasons, including manufacturing processes, toxicity, regulatory compliance and clinical trials.

- There is risk of running out of funds. Cash and deposits at the end of 2Q18 were ¥2,899mn, and if it continues to deploy R&D expense like the ¥592mn in FY12/17 and ¥1,230 in FY12/18, there is risk of funds being depleted in several years. FY12/18 net sales for Drug Discovery Support Business of ¥212mn are limited, and if licensing out and securing grants under consideration are unsuccessful, like many other pipeline-type bio-venture firms, there is high potential for fundraising which leads to dilution of shares.

- There is a risk that developed products will become exhausted due to competition with other companies. There are many companies that have technology to create antibody drugs that compete with Chiome, including biotech and vendor companies in Europe and the US. Chiome is trying to discover new development drugs through joint research with Japanese academia, but if competition deprives these opportunities, the pipeline could be exhausted in the future. In that case, it becomes difficult to increase corporate value.

President, CEO
Shigeru Kobayashi, M.E.

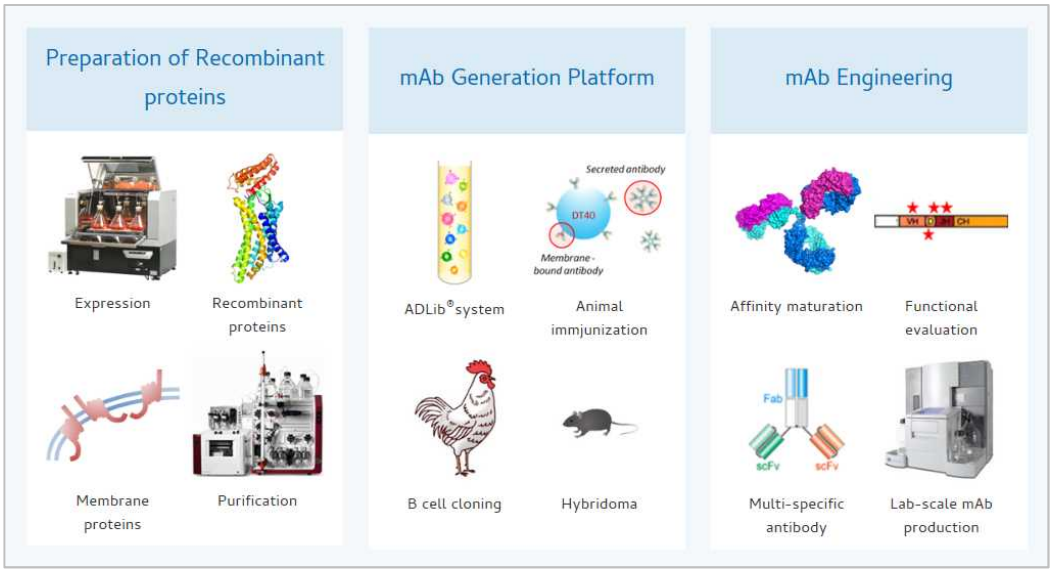
Chief Financial Officer
Arihiko Bijohira

❼ Corporate Information

The company was founded in Tokyo in 2005 with the aim of commercializing the ADLib® System, which was developed based on the results of the research of RIKEN researcher Professor Kunihiro Ota (currently Professor of the University of Tokyo, Faculty of Life Sciences and largest shareholder). In 2011, the company was listed on TSE Mothers. The company's mission statement is "Shine light on unmet needs. Bring a brighter future to patients." Management's long-term vision is "We will become the No. 1 biotech venture that discovers and develops antibody drugs for unmet medical needs." Initially, the company focused on licensing out the ADLib® System technology, but in 2017, while using its own technology, developed an antibody drug and switched to business focused on licensing out development drugs. At the same time, Shigeru Kobayashi, who was serving as COO and CTO at the time, having been the president of Kyowa Hakko's (currently Kyowa Kirin) UK subsidiary and head of the Pharmaceutical R&D Division, become CEO. There are 53 employees.

FY12/19 consolidated net sales more than doubled to ¥447 million. This was boosted by Drug Discovery Support Business sales rising from ¥210 million → ¥417 million on rapid growth in orders from Chugai Pharmaceutical and Ono Pharmaceutical. Also, for Drug Discovery and Development Business, the company booked its first milestone revenue payment of $250,000 for ADCT-701. Following the high level the previous year, R&D expense remained at a high level of ¥1,299 million, and this was mainly used for manufacturing consignment expense for CBA-1205 drug substance for use in clinical trials and CRO (Contract Research Organization) preclinical studies expense. The No.14 new stock acquisition rights issued in Jan-2019 were all exercised in Aug-2019, raising ¥1,248mn. The majority of this will be used for manufacturing cost for CBA-1535 clinical testing investigative drugs.

Core Competence Supporting Our Business:
Technology Platform (Chiome's mAb Discovery Engine)



Source: company website

Comparison with competitors focused on cancer

	Item (unit)	Chiome Bioscience (4583 TSE Mothers)	Carna Biosciences (4572 TSE JQG)	OncoTherapy Science (4564 TSE Mothers)
Share price	Share price (yen)	211	1,474	70
indicators	mkt cap (bn yen)	7.0	24.7	20.5
	P/E (times)	—	112.2	—
	P/B (times	2.70	6.42	4.20
	Year high (yen)	261	3,300	148
	Year low (yen)	171	867	66
	Dividend yield (%)	0.0%	0.0%	0.0%
Assets	In-house developed	Non-clinical (4)	Non-clinical (4)	Phase 1 (5)
	Licensed-out	Non-clinical (4)	Non-clinical (4)	Phase 3 (1)
				Phase 2 (2)
				Phase 1 (1)
Financial	Fiscal year	FY12/19	FY12/19	FY3/19
indicators	Net sales (JPY mn)	447	3,207	280
	OP (JPY mn)	(1,401)	977	(2,953)
	Cash/deposits (JPY mn)	2,105	4,915	4,857
	Equity ratio (%)	92.6%	71.5%	85.6%

*Carna Biosciences and OncoTherapy Science were selected as competitors given their focus on cancer. Assets are listed as non-clinical or higher, and drug discovery is omitted.

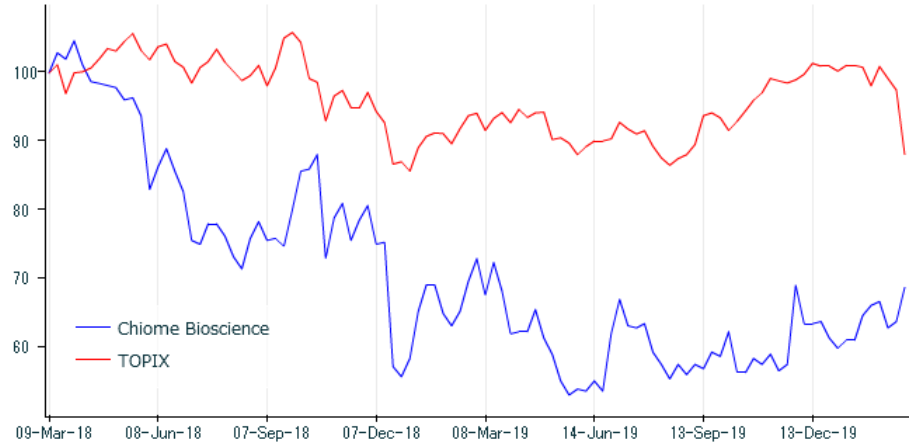
Major Shareholders as of the end of Jun-2019

Rank	Shareholder	No. Shrs Owned	% Owned
1	Kunihiro Ota	960,000	2.92
2	NOMURA NOMINEES Omnibus Margin Cash PB	570,000	1.73
3	Matsui Securities Co., Ltd.	515,200	1.57
4	Tetsuo Iisaku	360,000	1.09
5	Japan Securities Finance Co., Ltd.	275,000	0.83
6	Takehiko Shibata	273,000	0.83
7	Rakuten Securities, Inc.	248,300	0.75
8	Shigeo Onozawa	226,700	0.69
9	Daiwa Securities Co. Ltd.	215,900	0.65
10	Shigekazu Hirata	201,700	0.61

Management Team

Official Title	Name	No. Shrs Owned
President, Chief Executive Officer	Shigeru Kobayashi	110,000
Executive Director, CFO, Head of Corporate Planning	Arihiko Bijohira	100
Outside Executive Director	Akiyuki Furuya	—
Outside Executive Director	Haruhisa Kubota	—
Audit & Supervisory Board Member, Full-time	Ken-ichiro Saitoh	—
Audit & Supervisory Board Member	Yasuhiro Tsuji	6,000
Audit & Supervisory Board Member	Yoshiyuki Yamakawa	—

Share Price and Relative Performance



Source: SPEEDA

❽ Financial Statements: Statements of income

JPY mn, %	FY12/15	FY12/16	FY12/17	FY12/18	FY12/19
	act	act	act	act	act
Total Revenue	280	252	260	213	448
Total Cost of Sales	138	138	85	102	163
Gross Profit	142	114	174	111	285
Gross Margin	*50.7*	*45.2*	*66.9*	*52.1*	*63.6*
Selling, General and Administrative Expenses	1,412	1,157	1,062	1,650	1,687
R&D Expenses	828	627	592	1,230	1,299
Depreciation	102	113	11	7	5
EBIT	(1,288)	(1,503)	(880)	(1,531)	(1,401)
EBITDA	(1,168)	(929)	(877)	(1,532)	(1,397)
EBITDA Margin	*-417.1*	*-368.7*	*-337.3*	*-719.2*	*-311.8*
Operating Profit	(1,270)	(1,042)	(888)	(1,539)	(1,402)
Operating Profit Margin	*-453.6*	*-413.5*	*-341.5*	*-722.5*	*-312.9*
Non-Operating Income	20	8	7	5	5
Interest and Dividends Income	7	2	0	0	0
Non-Operating Expenses	4	12	2		14
Interest Expenses	0	0	0		
Ordinary Profit	(1,254)	(1,047)	(884)	(1,534)	(1,410)
Ordinary Profit Margin	*-447.9*	*-415.5*	*-340.0*	*-720.2*	*-314.7*
Extraordinary Gains/Losses	(27)	(454)	3	3	9
Extraordinary Gain	3	6	5	3	9
Extraordinary Loss	30	460	2		
Pretax Profit	(1,281)	(1,501)	(880)	(1,531)	(1,401)
Pretax Profit Margin	*-457.5*	*-595.6*	*-338.5*	*-718.8*	*-312.7*
Income Taxes	2	(10)	2	2	2
Income Taxes - Current	4	2	2	2	2
Income Taxes - Deferred	(2)	(13)			
Net Profit Attributable to Owners of Parent	(1,283)	(1,491)	(883)	(1,534)	(1,404)
Net Profit Margin (Attributable to Owners of Parent)	*-458.2*	*-591.7*	*-339.6*	*-720.2*	*-313.4*

Source: SPEEDA

Balance Sheets (Assets, Liabilities and Shareholders' Equity)

JPY mn, %	2015.12.31	2016.12.31	2017.12.31	2018.12.31	2019.12.31
	act	act	act	act	act
Total Assets	4,919	4,789	4,419	2,831	2,808
Current Assets	4,274	4,682	4,197	2,610	2,561
Cash, Cash Equivalents And Short-term Investments	4,100	4,553	4,027	2,329	2,106
Cash & Cash Equivalents	1,301	4,553	4,027	2,329	2,106
Short-Term Investment in Securities	2,799				
Accounts Receivables	46	47	44	42	95
Inventories	42	35	35	45	67
Other Inventories	42	35	35	45	67
Advance Paymentss				127	218
Prepaid Expenses	23	11	46	32	40
Non-Current Assets	645	108	223	221	247
Property, Plant & Equipment (PPE)	436	35	23	16	11
Intangible Assets	23				
Investments and Other Assets	187	72	200	205	236
Investment Securities (inc. Subs and Affiliates)	114		150	150	150
Investment Securities	114		150	150	150
Long-term Prepaid Expenses			2	8	12
Total Liabilities	355	224	202	154	187
Current Liabilities	238	169	161	113	145
Trade Payables	30	23	28	32	30
Accounts Payable - Other and Accrued Expenses	93	55	86	40	51
Short-Term Debt	46	50	4		
Current Portion of Long-term Debt	46	50	4		
Current Portion of Long-Term Borrowings	46	50	4		
Advances Received				2	16
Deferred Income - Current	30	3		0	1
Non-Current Liabilities	117	55	41	41	41
Long-Term Debt	54	4			
Long-Term Borrowings	54	4			
Deferred Tax Liabilities - Non-Current	13				
Total Net Assets	4,564	4,565	4,218	2,677	2,622
Total Shareholders' Equity	4,564	4,565	4,218	2,677	2,622
Shareholders' Equity	4,537	4,528	4,182	2,648	2,599
Capital Stock	4,445	5,186	5,455	5,455	6,132
Capital Surplus	4,435	5,176	5,445	5,445	6,122
Retained Earnings	(4,344)	(5,835)	(6,717)	(8,251)	(9,655)
Treasury Stock	0	0	0	0	0
Share Warrants	28	37	36	28	22
Total Liabilities and Net Assets	4,919	4,789	4,419	2,831	2,808

Source: SPEEDA

Statements of Cash Flows

JPY mn, %	FY12/15 act	FY12/16 act	FY12/17 act	FY12/18 act	FY12/19 act
Cash Flows from Operating Activities	(1,245)	(970)	(867)	(1,689)	(1,537)
Depreciation and Amortization - CF	102	113	11	7	5
Depreciation - CF	102	113	11	7	5
Gain/Loss on Valuation of Secs and Investment Securities		114			
Gain/Loss on Valuation of Stocks of Subs and Affiliates	27				
Interest and Dividends Received - Operating CF	2	5	0	0	0
Interest Paid - Operating CF	0	0	0		
Cash Flows from Investing Activities	(1,780)	1,989	(137)		(26)
Payments for Purchases of Secs and Investment Securities	(3,812)	(301)	(150)		
Payments for Purchases of Securities	(3,698)	(301)			
Payments for Purchases of Investment Securities	(114)		(150)		
Purchases/Sales of PPE	(164)	(10)	(3)		
Payments for Purchases of PPE	(164)	(10)	(5)		
Proceeds from Sales of PPE			2		
Purchases/Sales of Intangible Assets	(4)	(1)			
Payments for Purchases of Intangible Assets	(4)	(1)			
Cash Flows from Financial Activities	124	1,434	479	(10)	1,341
Increase in Long-Term Debt	100				
Proceeds from Long-Term Borrowings	100				
Repayments of Long-Term Debt		(46)	(50)	(4)	
Repayments of Long-Term Borrowings		(46)	(50)	(4)	
Proceeds from Issuance of Stock	21	1,461	529		1,346
Changes in Cash Flow	(2,818)	2,453	(526)	(1,699)	(223)
Cash & Cash Equivalent - Beginning	4,918	2,101	4,553	4,027	2,329
Cash & Cash Equivalent - Ending	2,101	4,553	4,027	2,329	2,106
Free Cash Flow (FCF)	(3,025)	1,019	(1,004)	(1,689)	(1,563)

Source: SPEEDA

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