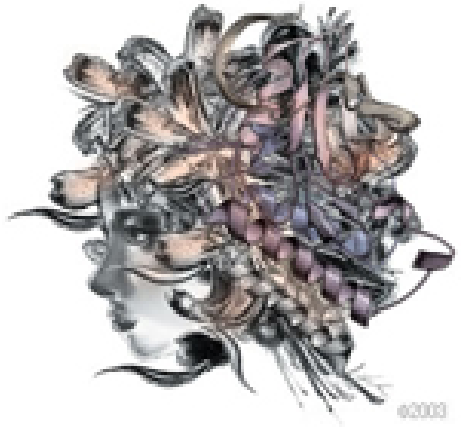
Carna Biosciences, Inc.



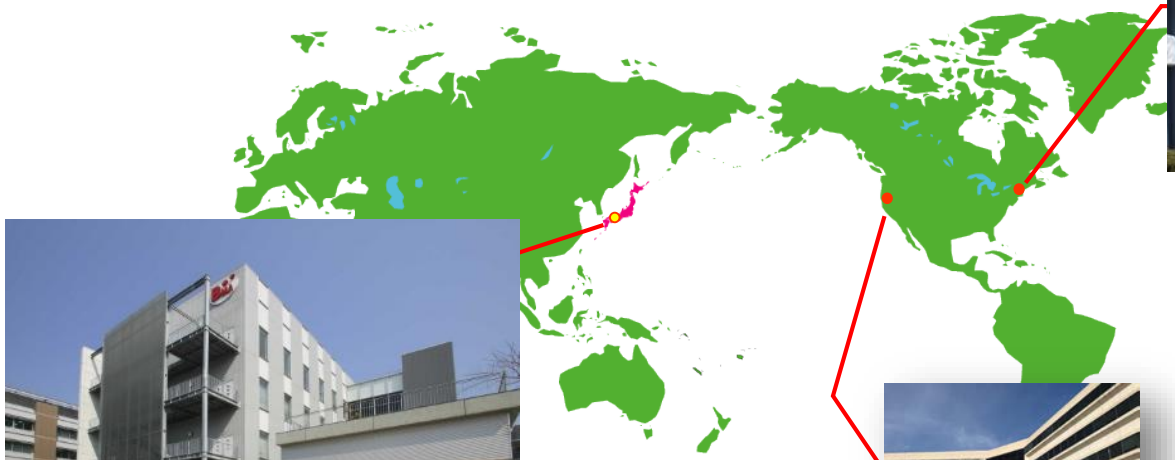
July 2021

Stock Code: 4572

Company Overview

Company Overview

- Founded in April 2003 (spin-out company from N.V. Organon [MSD])
- Initial Public Offering (JASDAQ 4572) in March 2008
- 81 people
- Offices:
  - Carna Biosciences, Inc. - Kobe, Japan;
  - CarnaBio USA, Inc. - Natick, MA
  - Clinical Development Office – South San Francisco, CA



CarnaBio USA
(Natick, MA)

Carna Biosciences, Inc.
(Kobe, Japan)

Clinical Development Office
(SSF, CA)

(As of July 1, 2021)

Our Mission

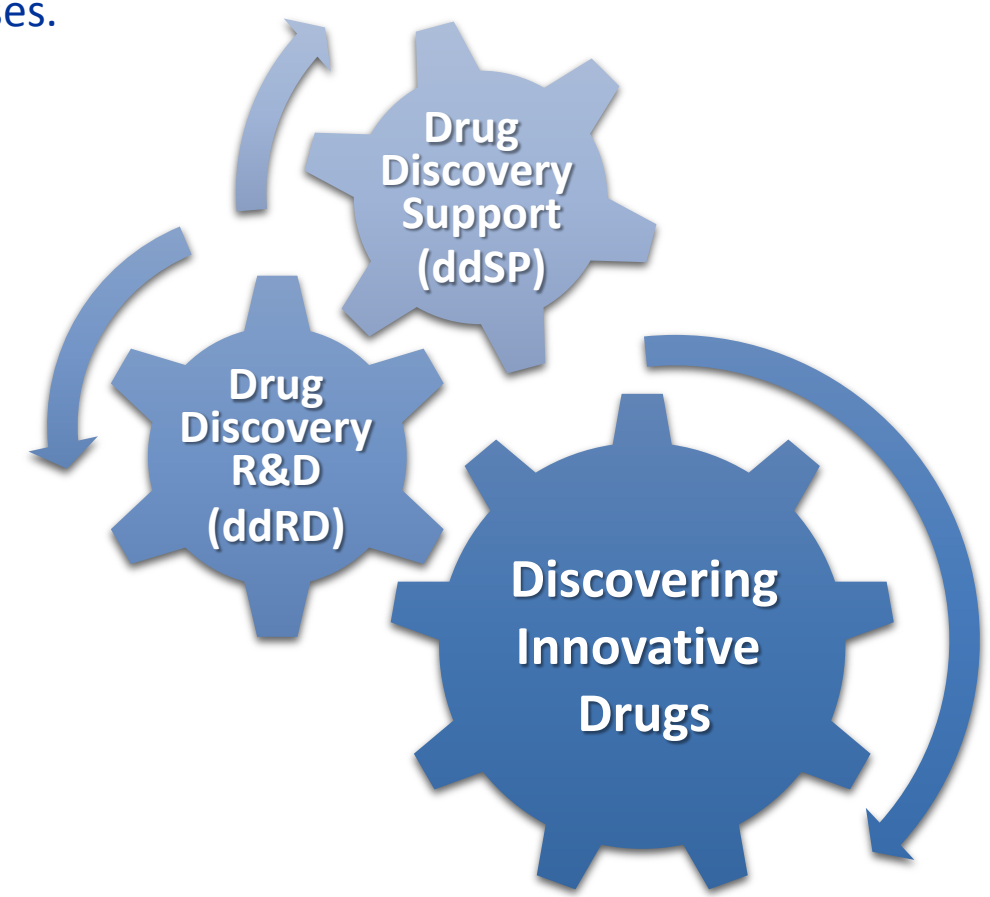
Discover and develop significant medical values that will provide therapeutic solutions for improving human health

Carna's powerful drug discovery engine invents a drug from scratch and drives our pipeline expansion

Continuously deliver innovative therapies for patients to treat serious unmet medical needs

Business Model to Drive Growth

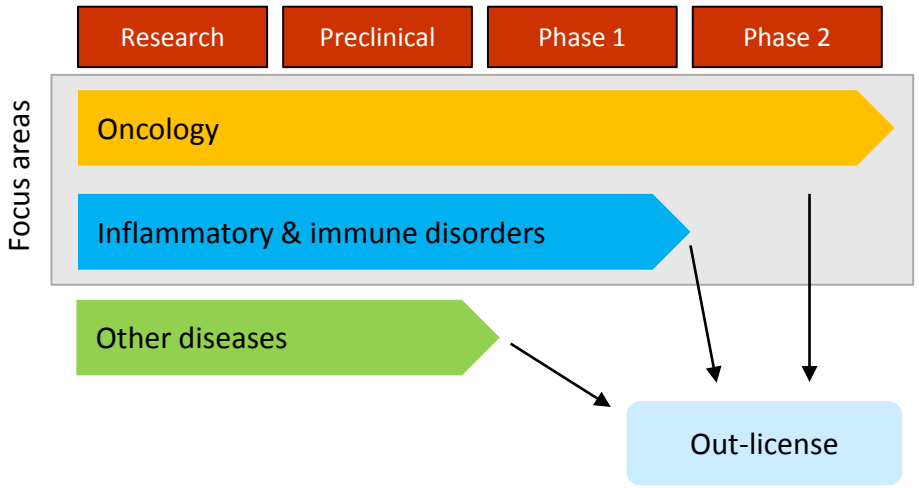
- Drug Discovery Support (ddSP) business provides pharmaceutical companies with the new tools to drive their kinase research. The stable income from the support business helps the drug discovery business to invest in R&D.
- Our small but powerful team with talented professionals at the Drug Discovery Research & Development (ddRD) business are focused on the research and development of innovative therapies targeting oncology and autoimmune diseases.



Business Model of Drug Discovery R&D (ddRD) Business

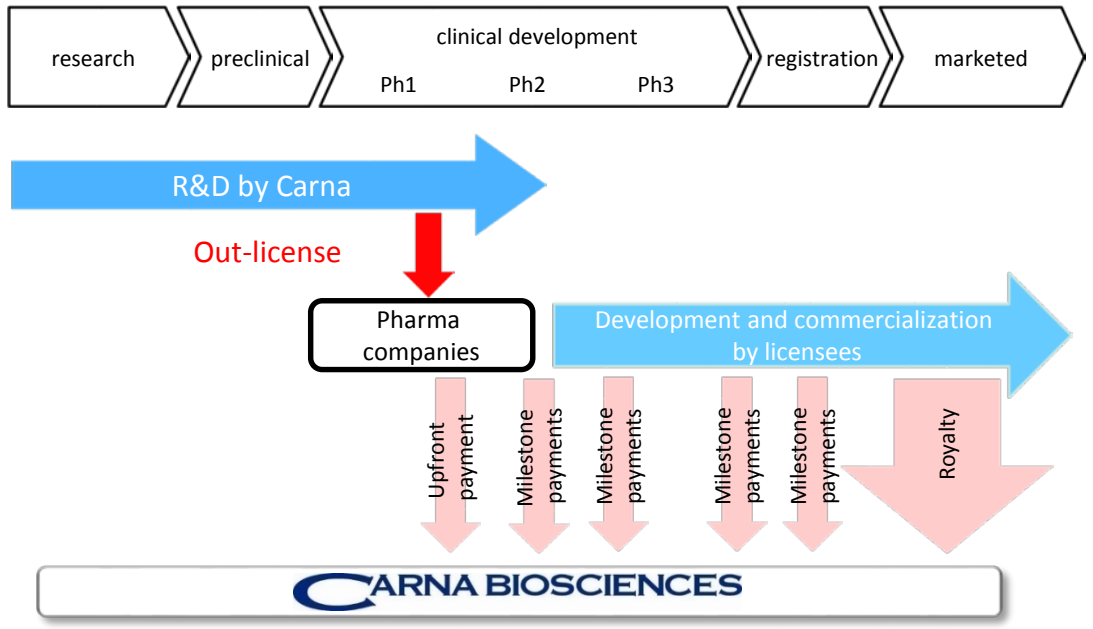
<R&D focus areas>

- ddRD business conducts research and development of innovative small molecule drugs including kinase inhibitors, focusing on oncology and inflammatory and immune disorders.
- We develop our oncology drug pipelines up to Phase 2 to maximize the potential values.
- For non-oncology pipelines, we basically license out at early stage before entering Phase 2 study to mitigate the development risk.



<Earnings model>

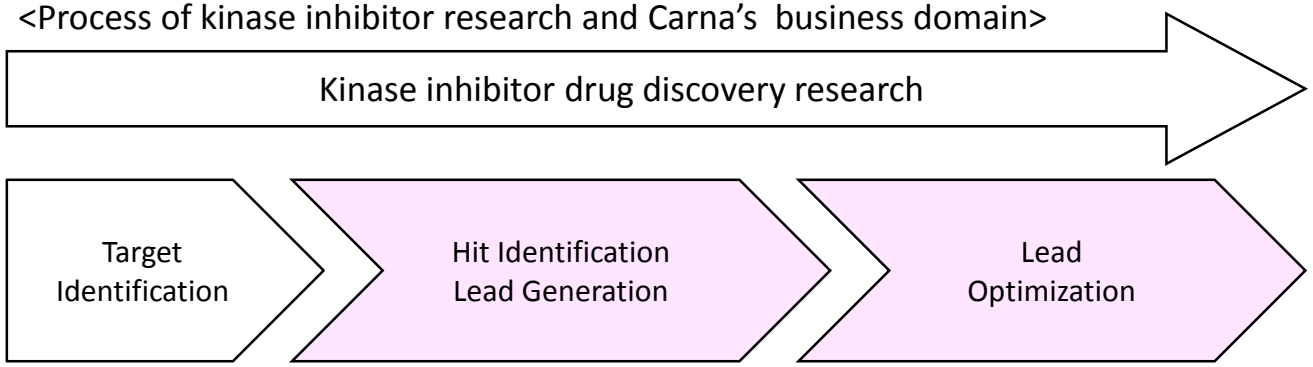
- We license our drug pipelines to pharma companies to generate revenue through upfront payments, milestone payments, and royalties on the resulting product sales.
- We intend to build long-term value by developing our own drug pipelines up to Phase 2 clinical trial on a fully burdened cost or in collaborations with development partners.



Business Model of Drug Discovery Support (ddSP) Business

- ddSP business develops and offers research tools for drug discovery, leveraging our proprietary kinase research technology, to generate stable cash flow. We apply the cash flows from ddSP business to ddRD business for the development of our own drug pipelines and the continued discovery of promising drug candidates in the future.

<Process of kinase inhibitor research and Carna's business domain>



Kinase proteins	Kinase proteins
Kinase Assay development Kinase Assay kits	Kinase Profiling service
Kinase Profiling service	Kinase Cell-based assay service
Kinase Screening service	X-Ray crystallography
Kinase Cell-based assay service	

Carna's products and services

Kinase proteins

Kinase Assay kits

Kinase Profiling and screening service

Drug Discovery R&D (ddRD) Business

Robust Drug Pipeline

<Oncology>

Compound	Target	Indication	Discovery/Preclinical	Clinical	Partner
AS-0141	CDC7/ASK	Cancer			
Small Molecule	Kinase	Immuno-Oncology			GILEAD
AS-1763	BTK	Blood Cancer			BioNova Pharmaceuticals *
Small Molecule	ALK5	Immuno-Oncology			
Small Molecule	CDK1	Cancer			

*Greater China only

<Other Therapeutic Areas>

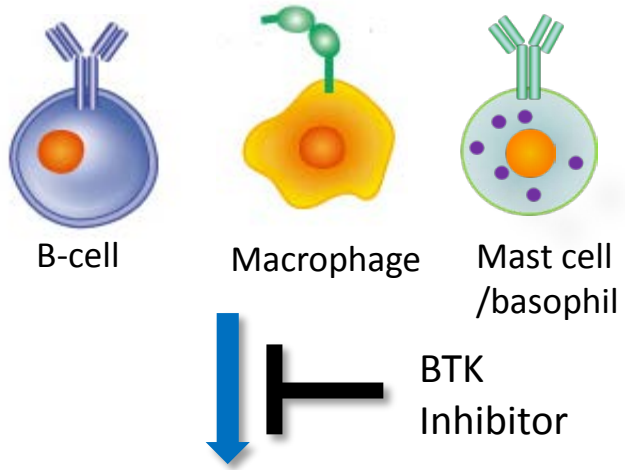
Compound	Target	Indication	Discovery/Preclinical	Clinical	Partner
Small Molecule	Kinase	Psychiatry & neurology			Sumitomo Dainippon Pharma
AS-0871	BTK	Immune-inflammatory diseases			
Small Molecule	N/A	Malaria			
Small Molecule	STING	Immune-inflammatory diseases			

✓We are actively pursuing early discovery programs to create next wave of pipeline.

BTK Inhibitor Program

Bruton's Tyrosine Kinase (BTK)

- ✓ BTK is one of the crucial kinases for the B-cell maturation and macrophage activation
- ✓ BTK has been recognized as a validated therapeutic target since the success of Ibrutinib, the first FDA approved BTK inhibitor
- ✓ The expected peak sales of Ibrutinib is > $10 billion*



<Sales of BTK inhibitors in market>

Launch	Product	Company	Target	2020	2026 Est.
2013	Ibrutinib	AbbVie/J&J	Blood cancer	$8.4B	$10.7B*1
2017	Acalabrutinib	Astra Zeneca	Blood cancer	$522M*2	

- In January 2019, Loxo Oncology, developing kinase inhibitors including non-covalent BTK inhibitor LOXO-305, was acquired by Eli Lilly for $8.0 billion.
- In December 2019, ArQule, developing non-covalent BTK inhibitor ARQ 531, was acquired by Merck for $2.7 billion.

→ High potential of non-covalent BTK inhibitors for sizable license deals

Source: 1. Evaluate Pharma
2. AstraZeneca Presentation

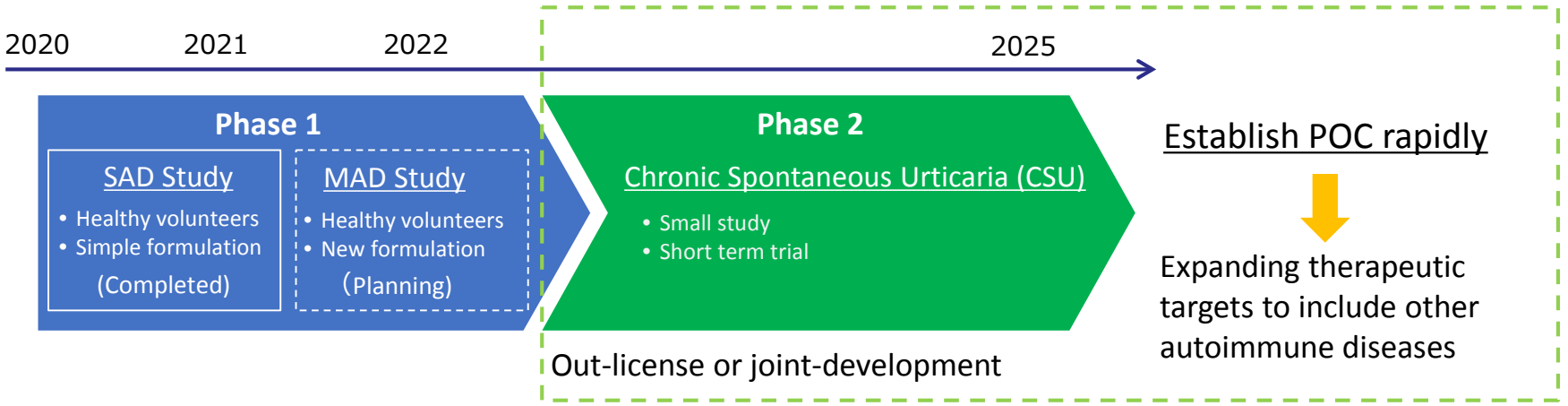
AS-0871: Non-covalent BTK Inhibitor Targeting Immune-inflammatory diseases

AS-0871：Targeting Immune-inflammatory diseases

- Small molecule BTK inhibitor
- Non-covalent/reversible
- High kinase selectivity
- Orally available

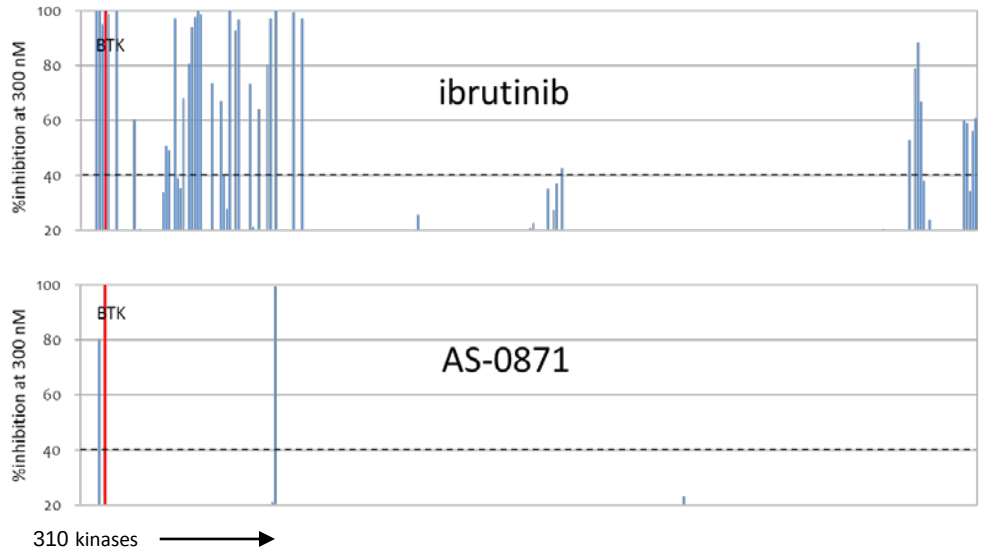
- Demonstrated significant efficacies in arthritis models
- Showed efficacy in systemic lupus erythematosus model
- Find a partner to conduct further development after completing Phase 1 study.

- ✓ Phase 1 Single Ascending Dose (SAD) study in healthy volunteers was initiated in H2 2020 in the Netherlands, finding AS-0871 was well-tolerated without any safety concerns at all dose levels.
- ✓ Multiple Ascending Dose (MAD) study using new drug formulation is planned in H2 2021.
- ✓ MAD study will include a skin prick test to see the potential of AS-0871 for the treatment of Chronic Spontaneous Urticaria (CSU), a disease with high unmet needs.
- ✓ Plan to find a partner for out-licensing or joint-development after completing the MAD study.
- ✓ Potential for autoimmune diseases in addition to CSU.

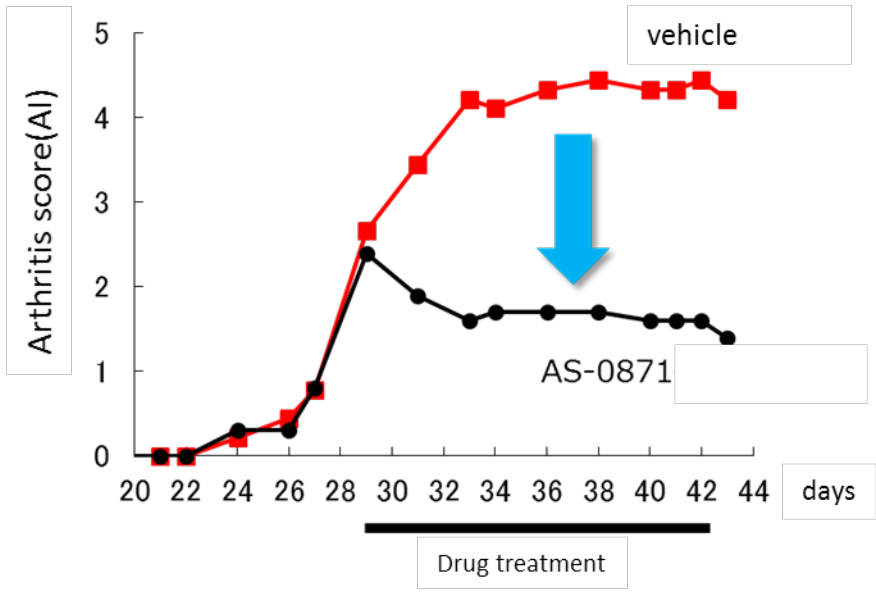


AS-0871: Highly Selective, Potent BTK inhibitor

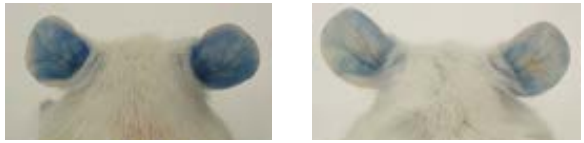
◆ High kinase selectivity



◆ Excellent Therapeutic efficacy in Collagen-induced arthritis (CIA) mice



◆ AS-0871 inhibits an allergic reaction



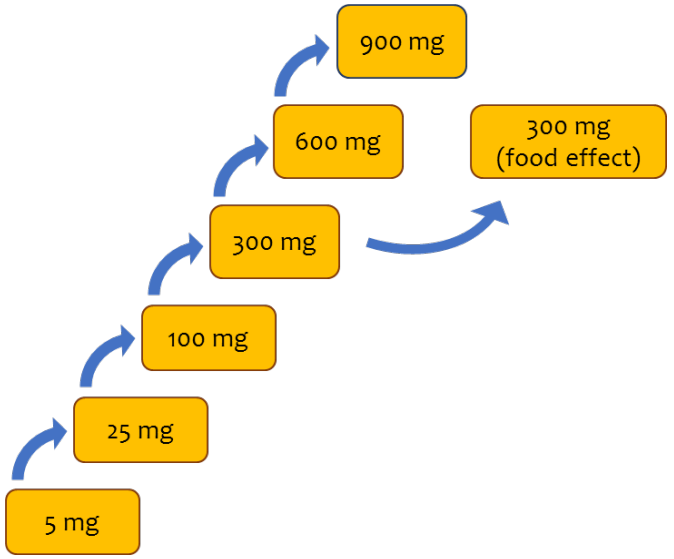
vehicle

AS-0871

AS-0871: FIH study

SAD Part (Completed)

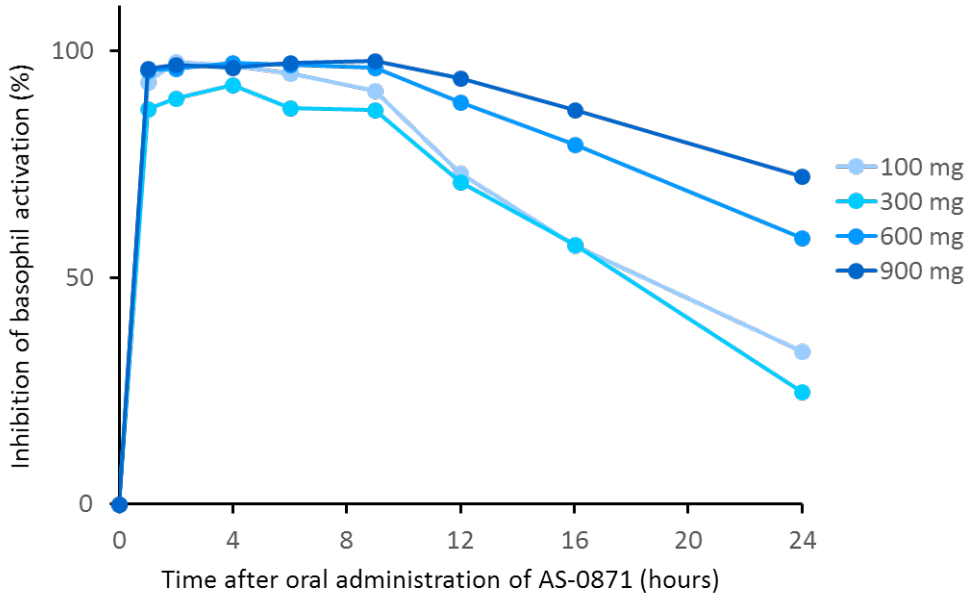
Step 1 Single Ascending Dose Study (SAD)	Step 2
• 6 dose levels (8 subjects/cohort) • Placebo controlled (6 active / 2 placebo) • Safety and tolerability • Pharmacokinetics and pharmacodynamics	• Food effect

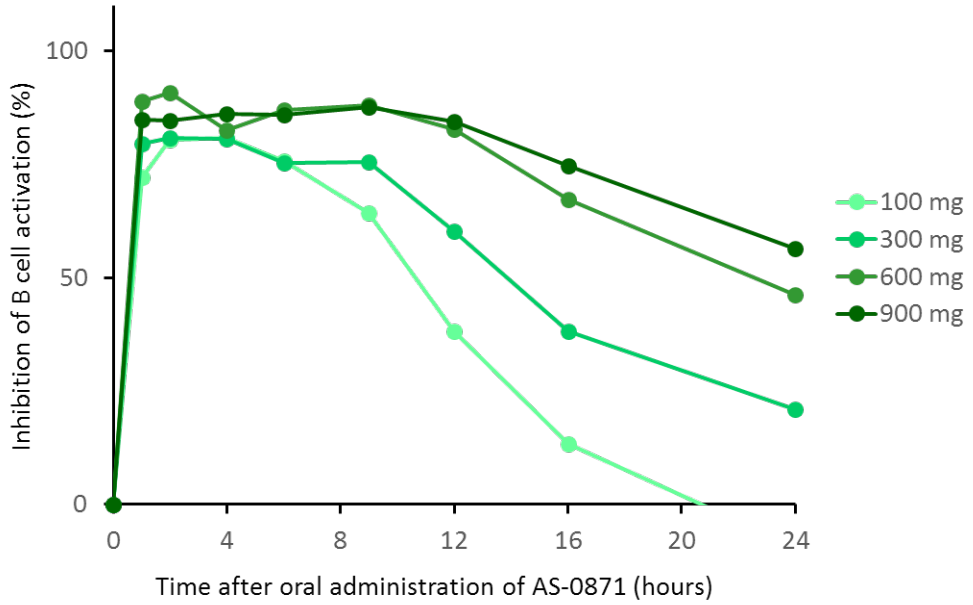


- ✓ AS-0871 is well-tolerated without any safety concerns.
- ✓ Favorable pharmacokinetic profile.
- ✓ Blood samples to assess PD effects were analyzed for evaluation of the B-cell and basophil responses. Administration of AS-0871 at 100mg or above resulted in strong inhibition of B-cell and basophil activation.
- ✓ Dose selection for the MAD study will be based on the results obtained from the completed SAD study.
- ✓ Switching to a new formulation in the MAD study.

Pharmacodynamics of AS-0871

- ✓ Pharmacodynamic study demonstrated that subjects who received AS-0871 showed dose proportional inhibitions in basophil and B-cell activations, and significant and sustained inhibitory effects were observed at 100 mg and above.
- ✓ Oral administration of AS-0871 achieved therapeutic plasma levels needed to inhibit B cells and basophils activation, suggesting that AS-0871 has a potential to become a new treatment option for inflammatory diseases.





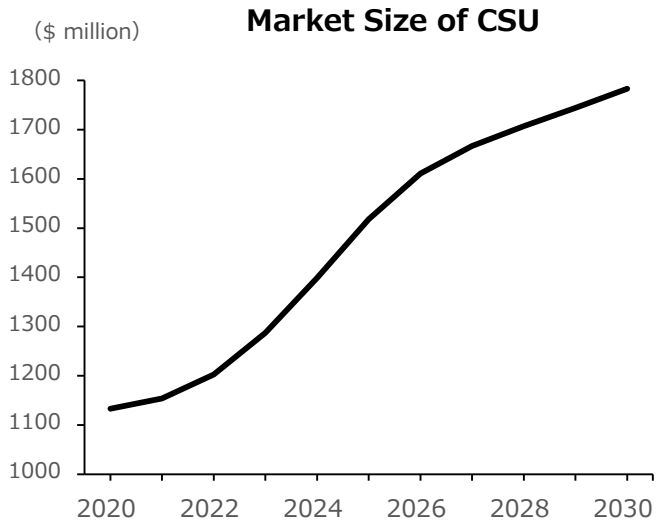
Non-covalent BTK inhibitors under development targeting autoimmune diseases

- Fenebrutinib is the only non-covalent BTK inhibitor under development targeting autoimmune diseases.
- No non-covalent BTK inhibitors under development targeting Chronic Spontaneous Urticaria.

Compound	Company	Development Phase
Fenebrutinib (GDC-0853)	Roche / Genentech	P3 Multiple Sclerosis

Chronic Spontaneous Urticaria

- ✓ Chronic Spontaneous Urticaria (CSU) is one of most frequent skin diseases with unmet medical needs since curative treatment is not available.
- ✓ CSU is a distressing skin disorder that characterized by itching and hives lasting for more than 6 weeks, which has major detrimental effects on quality of life with sleep deprivation and other conditions.
- ✓ An underlying cause is rarely detected and symptoms can be exacerbated by infectious diseases or stress.
- ✓ The lack of efficacy of approved standard therapy (antihistamines) in many patients is another major problems.
- ✓ Omalizumab, humanized anti-IgE anti IgE antibodies, has been approved as the third-line therapy, but the drug is very expensive ($1874 per 4 weeks on average).
- ✓ The market size of CSU in 2020 was estimated as $1,133 million in major seven countries. The market size excluding antihistamines was $1,062 million.
- ✓ The market size of CSU is expected to become $1,783 million in 2030 with launch of several humanized anti-IgE anti IgE antibodies competing with omalizumab.
- ✓ There are no approved BTK inhibitors targeting CSU.



Source: DeleveInsight

*1 Market size of CSU is estimated by DeleveInsight.
*2 Major seven countries include US, Germany, France, Italy, Spain and Japan.

AS-1763：Next Generation BTK Inhibitor Targeting Blood Cancer

AS-1763：Targeting Blood Cancer

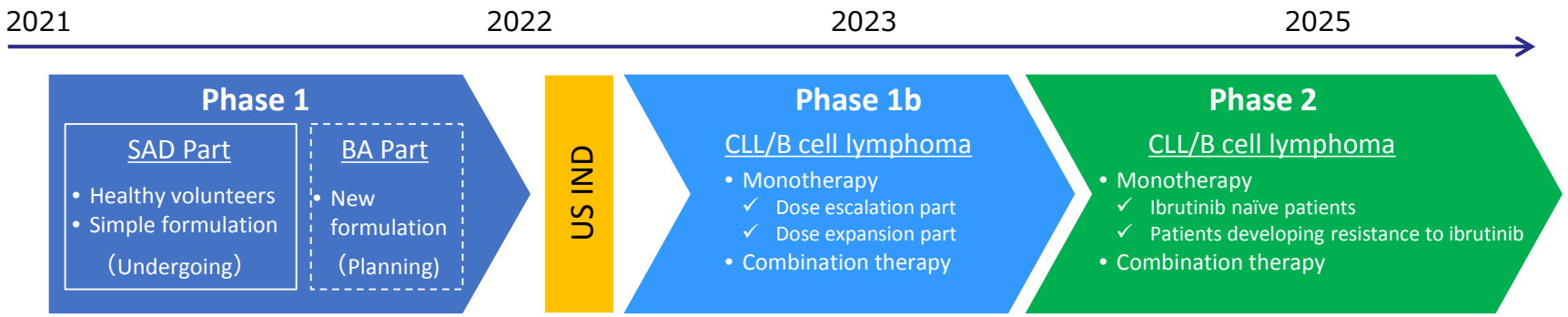
- Small molecule BTK inhibitor
- Non-covalent/reversible
- High kinase selectivity
- Inhibits both BTK wild type and ibrutinib resistant BTK C481S mutants
- Orally available

- Displayed strong anti-tumor effects in lymphoma model with both wild type and C481S mutant BTK
- Displayed efficacy in immuno-oncology model
- Potential applications for autoimmune diseases
- Plan to accelerate the clinical studies utilizing the clinical data of BioNova, the licensee in Greater China

✓ Phase 1 single ascending dose (SAD) study in healthy volunteers was initiated in the Netherlands in April 2021.

✓ Plan to initiate Phase 1b study in patients with chronic lymphocytic leukemia (CLL)/B cell lymphoma in the U.S. after the completion of the SAD study.

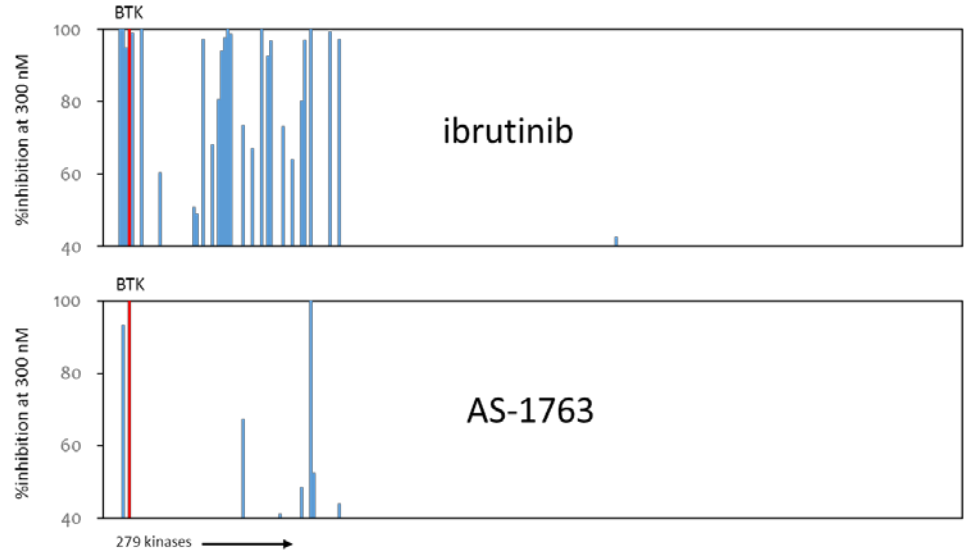
✓ Aim to conduct clinical studies efficiently, collaborating with BioNova.



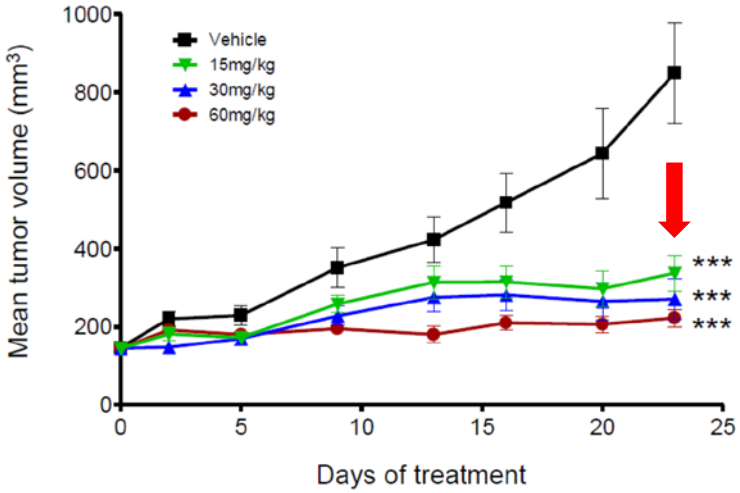
BA: Bioavailability
IND: Initial New Drug application

AS-1763: Strong Efficacy against C481S BTK mutant

- High kinase selectivity

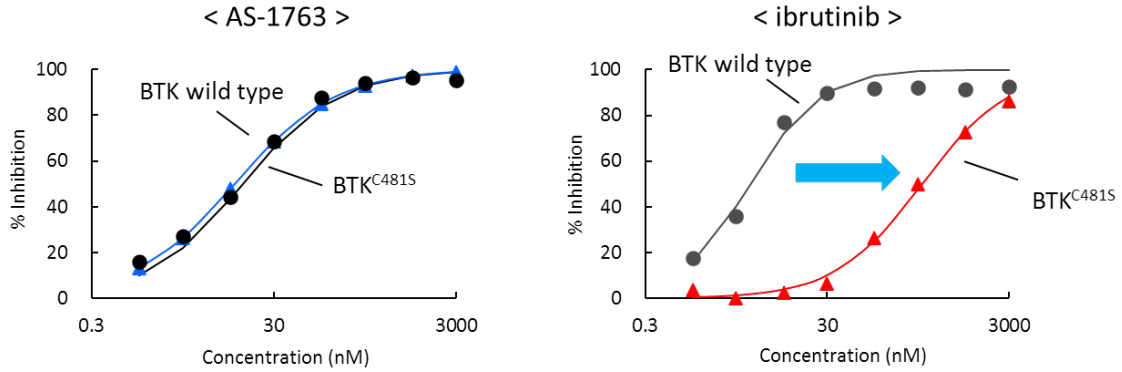


- AS-1763 significantly inhibits tumor growth in a B-cell lymphoma mouse model



*** P<0.0001

- AS-1763 inhibits both WT and C481S mutant BTK enzymes



BTK Inhibitors for Blood Cancers

- First generation covalent BTK inhibitors
  - ✓ First generation covalent BTK inhibitors including ibrutinib are key therapeutic options for patients with B cell malignancies including chronic lymphocytic leukemia (CLL).
  - ✓ Sales of first generation BTK inhibitors, ibrutinib, acalabrutinib, and zanubrutinib, totaled over $9 billion in 2020. Sales of ibrutinib is expected to be over $10 billion according to an estimate by Evaluate Pharma.
  - ✓ However, patients are reported to develop resistance during the treatment as more first generation BTK inhibitors are prescribed.

＜Sales of first generation BTK inhibitors＞

($million)	Development/ Marketing	2019	2020	2026Est.
Ibrutinib	AbbVie + J&J	7,291	8,433	10,722
Acalabrutinib	AstraZeneca	164	522	n.a.
Zanubrutinib	BeiGene	1	41	n.a.

Source: Financial report of the companies for historical data. Estimate for 2026 is based on EvaluatePharma.

Non-covalent BTK inhibitors under development targeting Cancer

- A high unmet medical need for new therapeutic approaches to overcome the BTK C481S-mediated resistance

✓ Patients treated with ibrutinib are reported to develop resistance during the treatment due to substitution of cysteine residue at 481 position with serine (C481S mutation) in BTK, which prevents the covalent binding of the first generation irreversible BTK inhibitors.

✓ AS-1763 significantly abrogates cell proliferation in both wild type and C481S mutant BTK lymphoma cells, strongly suggesting AS-1763 will be a new therapeutic option for treating patients with B cell malignancies both having wild type and C481S mutation in BTK.

✓ Inhibitors for BTK C481S-mediated resistance have not been launched, therefore there is a high unmet medical need for new therapeutic options.

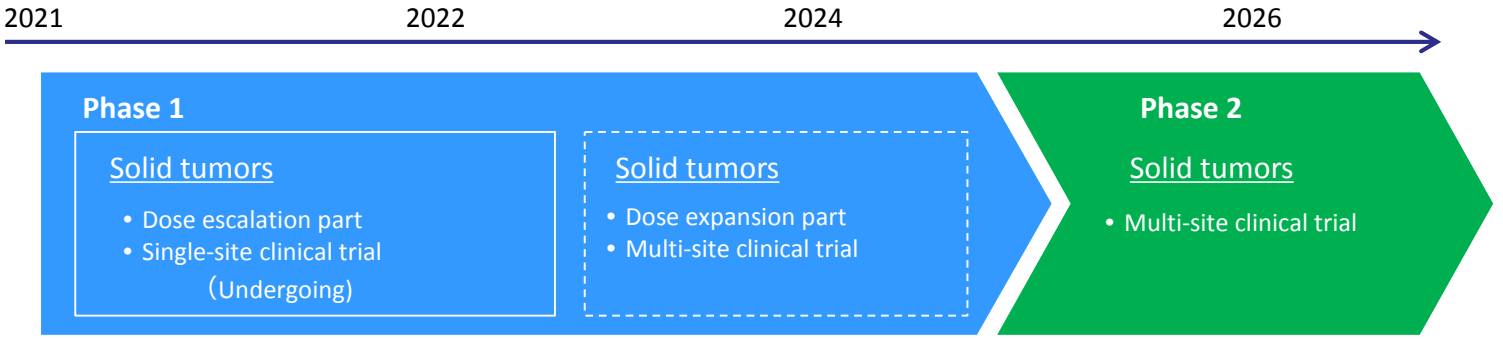
✓ Two non-covalent BTK inhibitors to treat patients with BTK C481S mutation are currently under development. ArQule and Loxo that originally developed the programs were acquired by big pharma.

Compound	Company	Development Phase
ARQ531	Merck (ArQule)	P2
LOXO-305	Loxo / Lilly	P3

AS-0141：CDC7 Inhibitor

AS-0141：Targeting Cancer	
● Small molecule CDC7 inhibitor ● High kinase selectivity ● Potential First-in-class drug ● Orally available	● Potent anti-proliferative activity against various cancer cell lines ● Demonstrated strong anti-tumor activity in several human tumor xenograft models ● Conducting Phase 1 study in Japan targeting solid tumors.

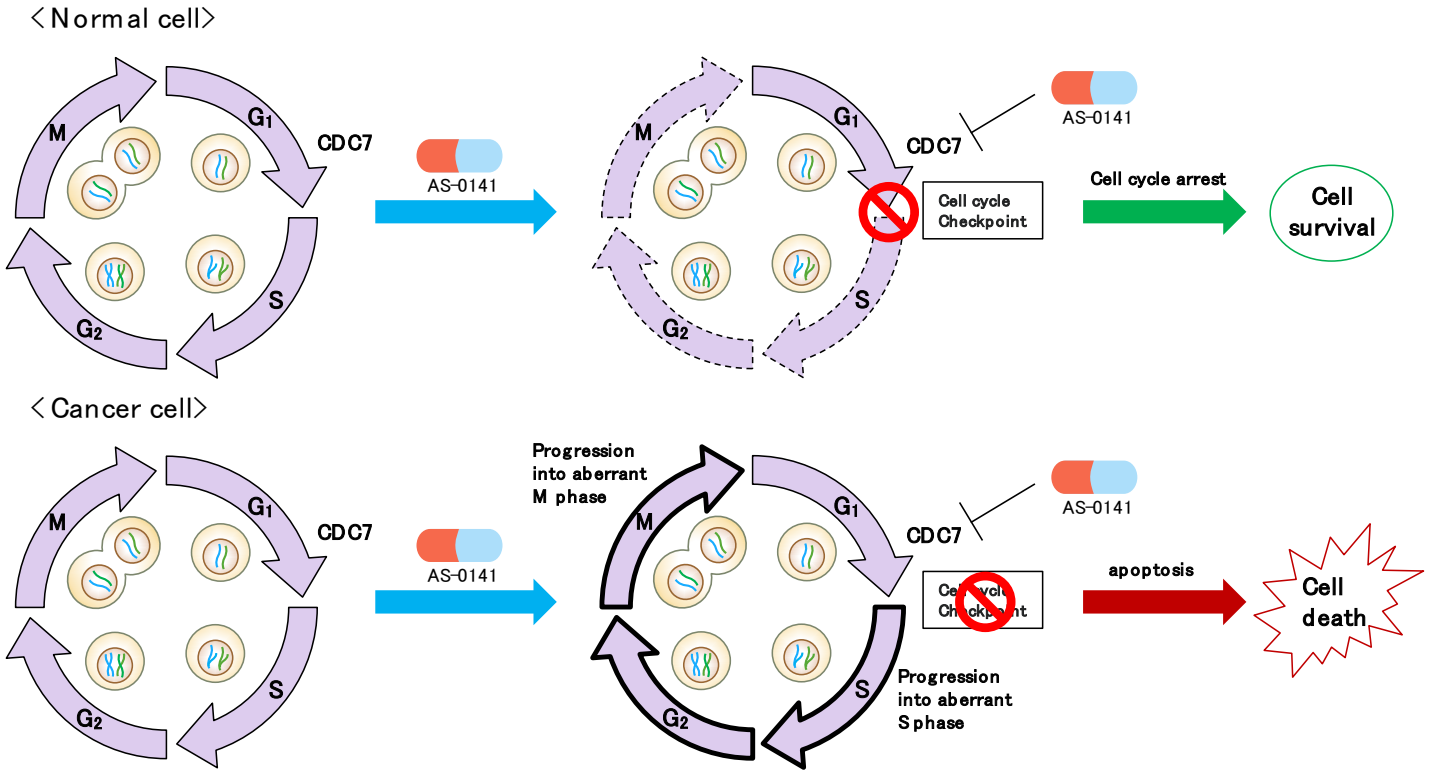
- ✓ In H1 2021, Carna initiated Phase 1 study in Japan in patients with unresectable, advanced, recurrent, or metastatic solid tumors.
- ✓ The study consists of two parts, a dose escalation and an expansion.
- ✓ The Phase 1 clinical study of AS-0141 is designed to assess the safety and tolerability of AS-0141 in advanced solid tumors, as well as to identify the recommended Phase 2 dose.



AS-0141: Highly Selective CDC7 Inhibitor

■ CDC7 kinase inhibitor

CDC7 (cell division cycle 7) is a serine-threonine kinase that plays a critical role in DNA synthesis and is required for the activation of DNA replication origins throughout the S phase of the cell cycle. Inhibition of CDC7 in cancer cells causes lethal S phase or M phase progression, whereas normal cells survive, most likely through induction of cell cycle arrest at the DNA replication checkpoint. It has been reported in the literature that CDC7 is overexpressed in many cancers. Therefore, CDC7 is an attractive target for cancer drug development.



Potential Revenue from Out-licensed Programs

- Carna is in license agreements with the pharmaceutical companies listed below and eligible to receive milestone payments upon achievement of certain development and commercial milestones. Carna will also receive royalties on future net sales.

< License/joint research agreements with pharmaceutical companies >

Partner	Compound (Target)	Upfront payment	Total milestone payments expected	Royalty	Region	Contract date
Sumitomo Dainippon Pharma (Joint research)	Kinase inhibitor (Psychiatric and neurological disorders)	JPY80M (including research milestone)	JPY10.6B	Undisclosed	Worldwide	Mar. 2018
Gilead Sciences (Out-license)	Kinase inhibitor (Immuno- oncology)	$20M	$450M	Undisclosed	Worldwide	Jun. 2019
BioNova Pharmaceuticals (Out-license)	AS-1763	Undisclosed	$205M	Up to two digits %	Greater China	Mar. 2020

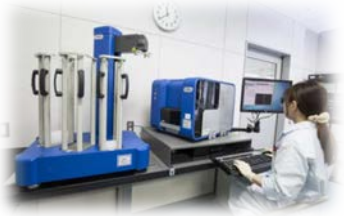
* The amount and timing of milestone payments as well as royalty rates are not disclosed due to the agreements with the partners.

Drug Discovery Support (ddSP) Business

Drug Discovery Support (ddSP) Business

- ddSP business offers scientists worldwide key resources for their kinase inhibitor research including kinase proteins, assay kits, profiling and screening services, and cell-based assay services.
- Our customers include top 10 pharmaceutical companies and biotech companies worldwide.
- Our commitment to quality, including enzyme activity, purity, variability among others, leads to repeat orders and helps keeping our corporate image.

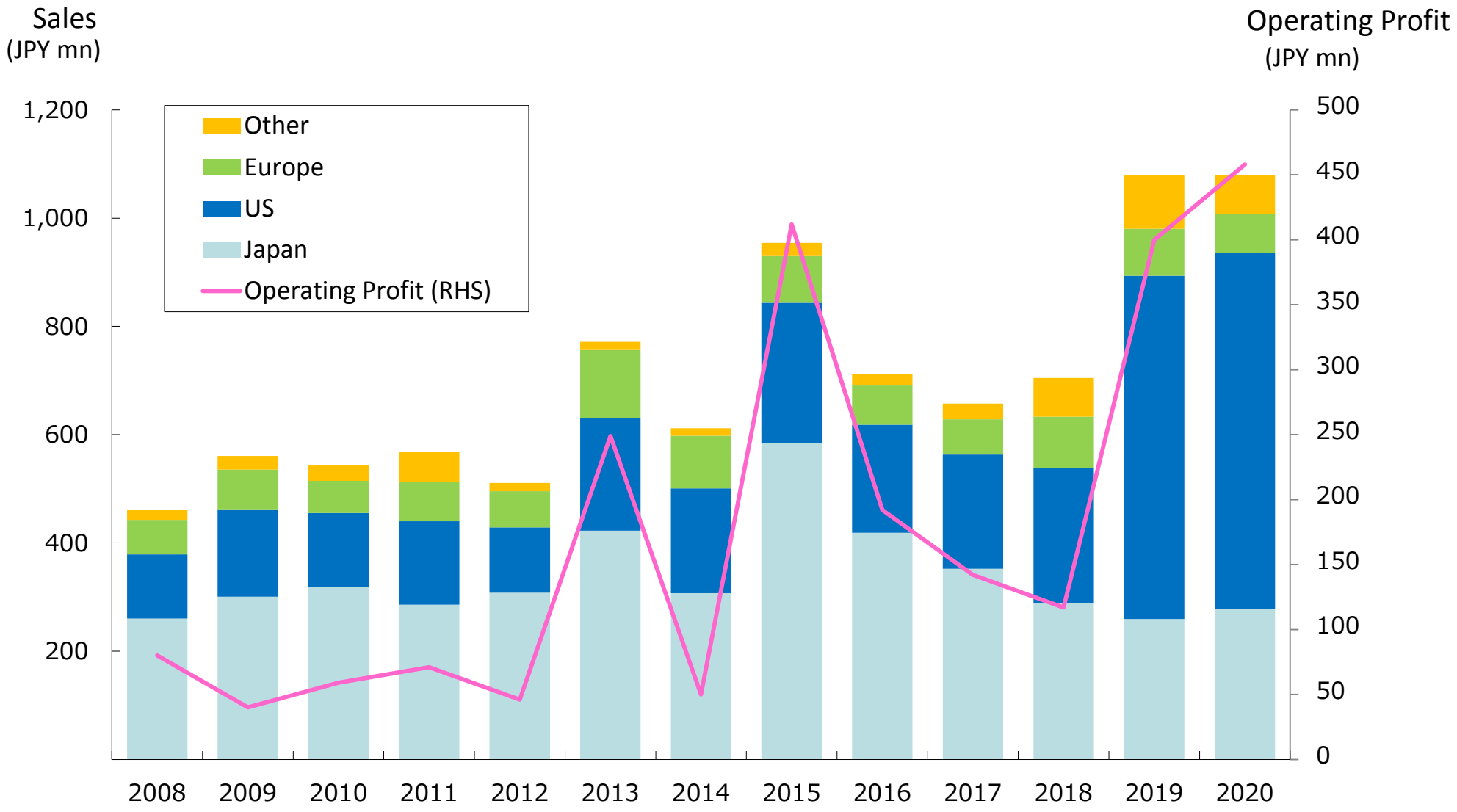
- High quality kinase proteins
  - ✓ *Lineup of approximately 460 products that are important for drug discovery research*
  - ✓ *Biotinylated Kinases of 130 kinds.*
- Accurate profiling service
  - ✓ *Validated Kinase Panel that well cover the Human kinome (>300 kinases)*
- Assay kits and assay development that satisfy customer needs
- *Cell-based assay services that provide further support to customers*
  - ✓ *NanoBRET™ TE Intracellular Kinase Cell-Based Assay*
  - ✓ *ACD's Tyrosine Kinase Cell-Based Assay*
  - ✓ *NTRC's Oncolines™, panel of cancer cell lines*



Market Environment for Drug Discovery Support

- ✓ The demand for kinase inhibitor research services is strong in North America and China. More stable demand in Japan.
- ✓ Major competitors include Thermo Fisher Scientific(US), Eurofins(EU), SignalChem(Canada), and Reaction Biology(US) while no competitors exist in Japan.
- ✓ Carna is the only drug discovery support service provider specialized in kinase inhibitors.
- ✓ Carna is the only major player who offers biotinylated Kinases.
- ✓ Accurate assays, detailed technical support, and product development by researchers who have experiences in drug discovery.
- ✓ Focusing on cell-based assay services including NanoBRET™ TE Intracellular Kinase Assays, assay service licensed from Promega Corporation for which Carna recently launched a new full panel service.

Sales and Operating Profit of Drug Discovery Support (ddSP) Business

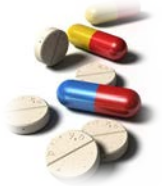


Business Plan

Growth Strategy

➢ *Advance clinical trials of our innovative pipelines to maximize corporate value*

Started internal drug discovery activity	Demonstrated strong capabilities in drug discovery	Maximize the value of pipelines	Continue delivering profits
2010-2015	2016-2020	2021-2025 (Plan)	2026-2030 (Plan)
• Established in-house research capability • Established pipeline	• Out-licensed multiple programs • Initiated clinical trials	• Advance clinical trials of AS-0871, AS-1763, and AS-0141 • Milestone payments from the out-licensed programs and deliver profits • Initiate pre-clinical and clinical studies of new pipelines	• Milestone payments and royalty income from the out-licensed programs and expand profits • Potential revenue from new license deals • Initiate pre-clinical and clinical studies of new pipelines



<ddRD>
- ✓ Advance clinical trials of AS-0871, AS-1763, and AS-0141
- ✓ Create next wave of pipeline
- ✓ Milestone payments and royalty income from out-licensed programs

<ddSP>
- ● Expand sales of in-house developed products and services in North America and Asia
- ● Sustainable sales growth by launching new products and services and reaching new customers
- ● Generate cash to invest in ddRD

ddRD: Drug Discovery R&D business
ddSP: Drug Discovery Support Business

Business Plan

(JPY million)	FY2020 Actual	**FY2021 Plan**	**Outlook for 2022 - 2025**
Total Sales	1,133	**923**	
ddSP business	1,080	**923**	Maintain stable sales.
ddRD business	53	**-**	Revenue from milestone payments and upfront payments.
Total Operating Loss	(1,057)	**(1,811)**	
ddSP business	458	**207**	Maintain stable profit while investing in product developments.
ddRD business	(1,515)	**(2,019)**	Continue to invest in R&D. Deliver profits depending on the size of milestone payments and upfront payments.
Ordinary Loss	(1,077)	**(1,816)**	
Net Loss	(1,111)	**(1,825)**	

(JPY million)	FY2020 Actual	**FY2021 Plan**	**Outlook for 2022 – 2025**
R&D Cost	1,474	**1,981**	Invest in R&D (JPY1 bn to 2.5 bn) for the future growth.
Capex	68	**21**	Invest in equipment for R&D and IT system (JPY20 mn to 100 mn.)

* Business plan for FY2021 does not include milestone payments and upfront payments related to license agreements as the timing or the amounts are difficult to predict. Numerical targets for 2022-2025 are not disclosed for the same reason.

ddRD: Drug Discovery R&D business
ddSP: Drug Discovery Support Business

Key Milestones

Business		Milestones		
		2020	2021	2022 and after
ddRD	AS-0871	✓ Initiate Ph1 (Achieved in Aug. 2020)	☐ Initiate Ph1 MAD study (H2 2021)	☐ Start partnering activity (2022)
	AS-1763	✓ IND submission (CTA submitted in Jan. 2021)	✓ Initiate Ph1 (Achieved in Apr. 2021)	☐ Initiate Ph1b (2022)
	AS-0141		✓ Initiate Ph1 (Achieved in Jun. 2021)	☐ Initiate Ph1 expansion part (2022)
	Research program	☐ Bring one or more programs in preclinical stage	☐ Bring one or more programs in preclinical stage	
ddSP		✓ Achieve sales target of JPY1,030 mn (Sales of JPY1,080 mn achieved) ✓ Launch new products (27 new products launched) ✓ Expand NanoBRET service (Sales more than doubled)	☐ Achieve sales target of JPY920 mn ☐ Launch new products ☐ Expand NanoBRET service ☐ Propose project-based service to collaborate with clients, leveraging Carna's drug discovery technology.	☐ Expand kinase protein offering further ☐ Grow assay services by adding targets

ddRD: Drug Discovery R&D business
ddSP: Drug Discovery Support Business
IND: Initial New Drug application in the U.S.
CTA: Clinical Trial Application in Europe

✓ Achieved
☐ Plan or to be achieved

Balance Sheet

- In order to advance clinical trials, we aim to maintain adequate cash position by generating cash from Drug Discovery Support(ddSP) business and licensing, as well as by raising funds from capital markets.

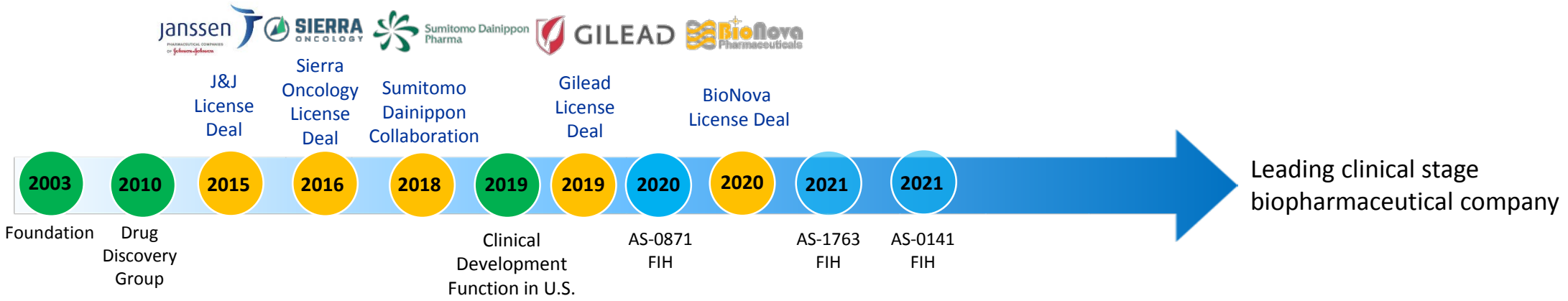
(JPY million)

	As of Dec. 31, 2019	As of Dec. 31, 2020	Change
Current assets	5,274	4,708	-566
Cash and deposits	4,915	4,299	-615
Non-current assets	101	127	+25
Total assets	5,376	4,835	-541
Current liabilities	1,055	727	-327
Non-current liabilities	467	284	-183
Total liabilities	1,523	1,011	-511
Total net assets	3,853	3,824	-29
Total liabilities and net assets	5,376	4,835	-541
Shareholders' equity ratio	71.5%	79.0%	
BPS	329.8 yen	308.0 yen	

Appendix

Building Long-Term Value

Our goal is to deliver innovative therapies for patients suffering from serious diseases



2003 - 2020	2021 Plan	Long term plan
● Founding members who had expertise in kinase drug discovery technology spun out from Nippon Organon and established Carna. ● Started offering kinase proteins and screening services to pharmaceutical companies for kinase inhibitor drug discovery. ● In 2010, Drug Discovery Group was established to conduct internal drug discovery. ● Entered into four license agreements and one joint-development agreement with pharmaceutical companies. ● Initiated FIH study of BTK inhibitor AS-0871.	● Conducting Phase 1 studies of BTK inhibitor AS-0871, AS-1763, and CDC7 inhibitor AS-0141. ● Strengthening global clinical development capability. ● Advance research programs and initiate preclinical development	● Advance clinical studies of AS-0871, AS-1763, and AS-0141 and earn upfront payments and milestone payments from out-licensing the pipelines. ● Receive milestone payments and royalties from licensees and strengthen financial position. ● Create next wave of pipeline.

FIH: First in Human

Management Team

Directors

Kohichiro Yoshino, Ph.D. **President & Chief Executive Officer, Representative Director**

Dr. Yoshino founded Carna Biosciences in 2003 as a spin-out venture from Nippon Organon, a subsidiary of N.V. Organon where he was the head of the Osaka Research Center. As a member of Organon Research Committee, Dr. Yoshino contributed to research and development of NV Organon. Before joining Nippon Organon, he engaged in the research and development of small molecule drugs at Kanebo Corporation Inc. From 2004 to 2008, he was a Visiting Professor at Center for Advanced Science and Innovation, Osaka University.
He earned M.S. in Chemistry from the Graduate School of Tokyo Institute of Technology and Ph.D. from Kyoto University.

Norio Aikawa **Head of Drug Discovery and Support Business, Head of IP and Legal Department, Director**

Mr. Aikawa is one of the founding member of Carna Biosciences. Mr. Aikawa has a long and extensive experience in the area of intellectual property and has contributed to strengthening Carna's IP strategy. Before joining Carna in 2003, he was the head of Intellectual Property Department at Nippon Organon. Before that, he was the head of Intellectual Property Department at Kanebo Corporation.
He holds a bachelor's degree in Science from Hirosaki University.

Masaaki Sawa, Ph.D. **Chief Scientific Officer, Director**

Dr. Sawa built the current drug discovery group at Carna. Before joining Carna, he held positions at Sumitomo Dainippon Pharma.
Prior to that, he was a medicinal chemist at Nippon Organon, a subsidiary of N.V. Organon.
From 2004 to 2006, he was a visiting scientist at the Scripps Research Institute in San Diego.
Dr. Sawa was a Visiting Professor at Graduate School of Medicine, Kobe University from 2013 to 2015.
He received his Ph.D. from Kyoto University.

Emi Yamamoto **Chief Financial Officer, Director, President of CarnaBio USA, Inc.**

Ms. Yamamoto joined Carna Biosciences in 2004 after engaged in fund administration at CSK Venture Capital. She built Carna's accounting and business management group and held a responsible role in Carna's IPO. Since 2017, she leads administration group, in charge of accounting, finance, human resources, and corporate planning.
Ms. Yamamoto holds a bachelor's degree in Business Administration from Aoyama Gakuin University, and a Certified Public Accountant.

Management Team

Directors

Atsuo Arita **Outside Director**

Before joining the Board of Directors in 2020, Mr. Arita served as External Auditor of Carna Biosciences from 2004 to 2020, overseeing its management as a full-time company auditor. He held various responsible roles in accounting, finance, and sales management at Kanebo Corporation Ltd. and was the head of business management at Kanebo.
He holds a bachelor's degree in Business and Commerce from Keio University.

Tsuguo Ogasawara **Outside Director**

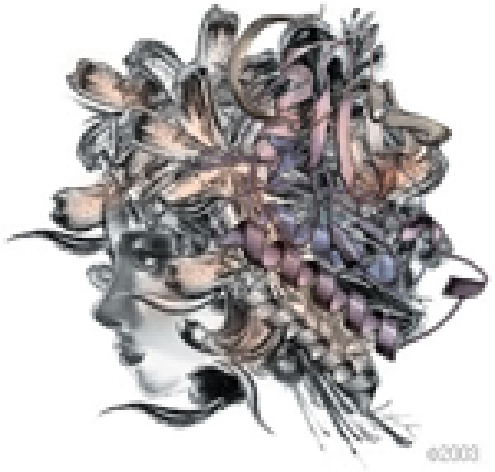
Mr. Ogasawara served as External Auditor of Carna Biosciences from 2005 to 2020 before joining the Board of Directors in 2020. He has brought Carna his extensive experience in international business. He was a Director at Chugai Pharmaceutical Co. Ltd., in charge of international business. Prior to that, he was engaged in business management, finance, and international business at Toray Industries, Inc.
He holds a bachelor's degree in Economics from Keio University.

Teruo Takayanagi, Ph.D. **Outside Director**

Dr. Takayanagi joined the Board of Directors of Carna Biosciences in 2015. He was the Director of Daiichi Pharmaceutical Co., Ltd. from 2001 to 2006 where he engaged in the R&D management and led post-marketing surveillance to promote proper use of its pharmaceutical products. He also held a responsible role in business integration with Sankyo. He was a full-time Auditor of Daiichi Sankyo Company, Limited from 2007 to 2011. Dr. Takayanagi is Board Member of Showa Pharmaceutical University, part-time Lecturer of Nagoya University, and Auditor of Japanese Society of Drug Informatics.
Dr. Takayanagi received his Ph.D. from the University of Tokyo.

Takao Matsui **Outside Director**

Mr. Matsui served as External Auditor of Carna Biosciences since 2019 to 2020 before joining the Board of Directors in 2020. He has over 35 years of experience in financial audit and related advisory business. He served as Certified Public Accountant at KPMG AZSA LLC. from 1982 to 2018. Mr. Matsui also currently serves as Outside Director of AIR WATER, INC. He was a Specially Appointed Professor at School of Accountancy, Kansai University since April 2018 to March 2020. He is a part-time lecturer at Kansai University and School of Accountancy, Kansai University since April 2020.
Mr. Matsui holds a bachelor's degree in School of Business Administration from Kwansei Gakuin University, and a Certified Public Accountant.



"Carna" is a goddess of Roman mythology who takes care of human health, protecting the human heart and other organs as well as everyday life, and is said to be the root for the word "cardiac."

The word "biosciences" is derived from the words 'biology' and 'life sciences.'

Carna Biosciences has created contemporary Carna goddess with protein kinase.

Carna Biosciences, Inc.

Corporate Planning

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