



2008 INVESTORS' GUIDE



Carna Biosciences, Inc.

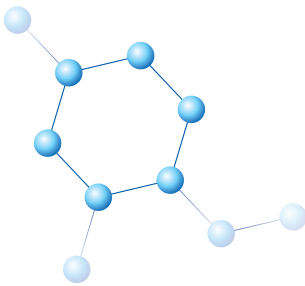
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CARNA BIOSCIENCES



Message from the President

Carna Biosciences, Inc. expertizes on kinases to establish drug discovery technology and aims at the development of new drugs.

Working as the leading kinase company

Carna Biosciences focuses on the drug discovery by targeting protein kinases, kinds of phosphotransferase enzymes. Protein kinases were originally discovered as proto-oncogenes in cancer research and it was identified 518 putative human protein kinase genes. Since the protein kinases play crucial roles in cellular signal transduction, uncontrolled kinase activities may result in diseases such as cancer and autoimmune diseases. To date, 9 kinase inhibitors have been approved for cancer therapy in the USA provided superior clinical outcome in cancer patients to compared with classical anti-cancer drugs. The launching of these kinase inhibitors called molecular-targeted drugs has greatly changed the treatment of the disease. Our primary aim is to create highly effective drugs for diseases such as cancer and autoimmune diseases. High quality kinase proteins are necessary for drug discovery research of kinase inhibitors. Carna Biosciences has generated 297 kinds (as of the end of August 2008) of high quality human recombinant kinase proteins and developed 276 kinds (as of the end of August 2008) of their kinase assays, which are used as profiling panels to investigate selectivity of kinase inhibitors. These products and services are provided to pharmaceutical companies as drug discovery services. Besides, they are utilized for internal drug discovery research at Carna Biosciences. In the future, we will provide the highly effective drugs to clinicalcare, where patients are suffering with diseases, through the products and services that we are supplying to pharmaceutical companies. We also would develop and supply the drug-candidate compounds to help the drug-discovery research of pharmaceutical companies.

The origin of our company name

Carna was founded in April 2003 as a bio-venture company that offers products and services necessary for kinase inhibitor drug discovery which comprises recombinant protein kinases and selectivity profiling services to pharmaceutical companies. Nowadays Carna has started a drug discovery that can generate lead compounds with internal drug discovery programs in addition to such products and services.

“Carna” is the goddess who takes care of human health, protecting the human heart and other organs as well as everyday life. Carna is a goddess of roman mythology, who takes care of human health 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.



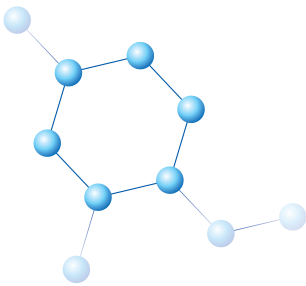
President and CEO Kohichiro Yoshino

Mission

Our mission is to develop and commercialize innovative new therapeutics which improve quality of life and lead to greater human wellness and longevity. We are strongly committed to the discovery of new drugs for the treatment of cancer and autoimmune diseases and to partnering our drug discovery technologies with global biopharmaceutical companies who share our vision to produce treatments benefiting mankind.

Code of conduct

- 1 We will be thoroughly and faithfully committed and build strong relations of trust
- 2 We will always do our best to overcome difficulties
- 3 We will respect individuality and develop our imaginations and creativity



Financial Summary

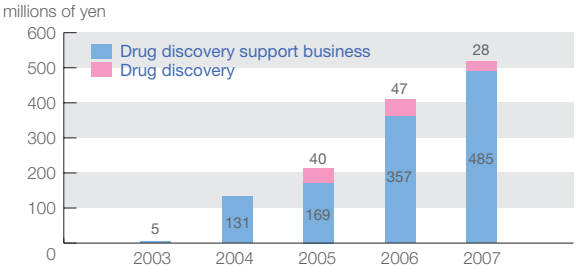


Selected Financial Data

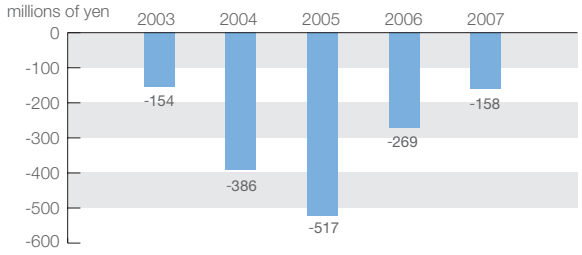
	2003	2004	2005	2006	2007
Net sales (millions of yen)	5	131	209	405	513
Ordinary loss (millions of yen)	-154	-386	-517	-269	-158
Net loss (millions of yen)	-154	-386	-519	-332	-179
Net assets (millions of yen)	329	866	358	1,652	1,435
Total assets (millions of yen)	593	1,080	564	1,938	1,622
R&D expenses (millions of yen)	94	272	392	307	256
Equity ratio (%)	55.5	80.2	63.5	85.3	88.5
Total number of issued shares (shares)	1,944	28,690	28,690	44,490	44,490

Notes: 1. The company does not issue consolidated financial statements.
2. Because the company was established on April 10, 2003, the FY2003 was the roughly 9-month period from April 10, 2003 to December 31, 2003.
3. The financial statements for the FY2005 and the FY2006 were audited by Deloitte Touche Tohmatsu based on the provisions of Article 3.7 of the securities listing regulations of the JASDAQ Securities Exchange, Inc.
4. The company conducted a 1-to-10 share split on May 6, 2004.

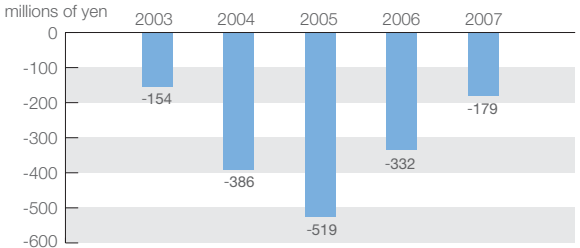
Net sales



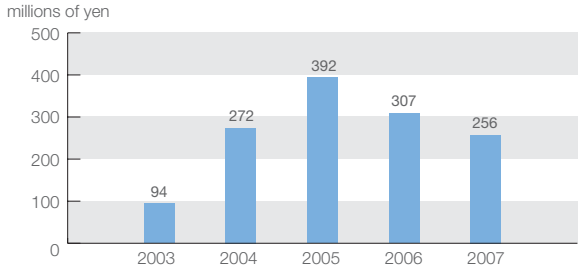
Ordinary loss



Net loss

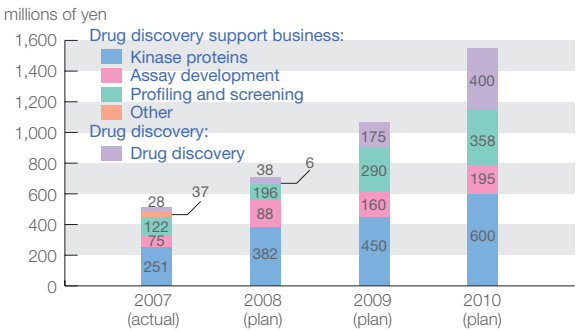


R&D expenses

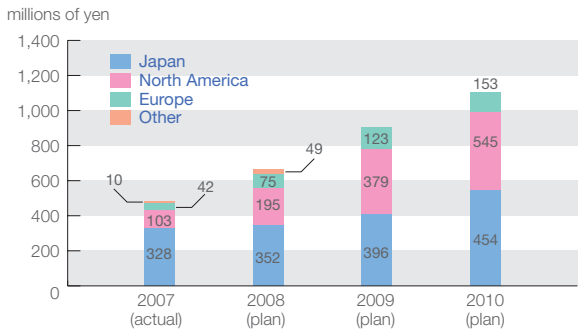


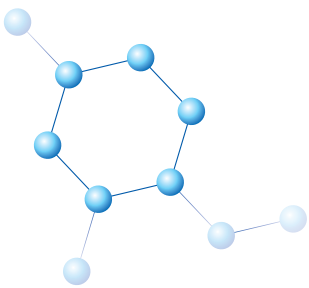
Milestone

Net sales by business segment and product category
- Drug discovery support business & Drug discovery



Net sales by region
- Drug discovery support business





Kinase

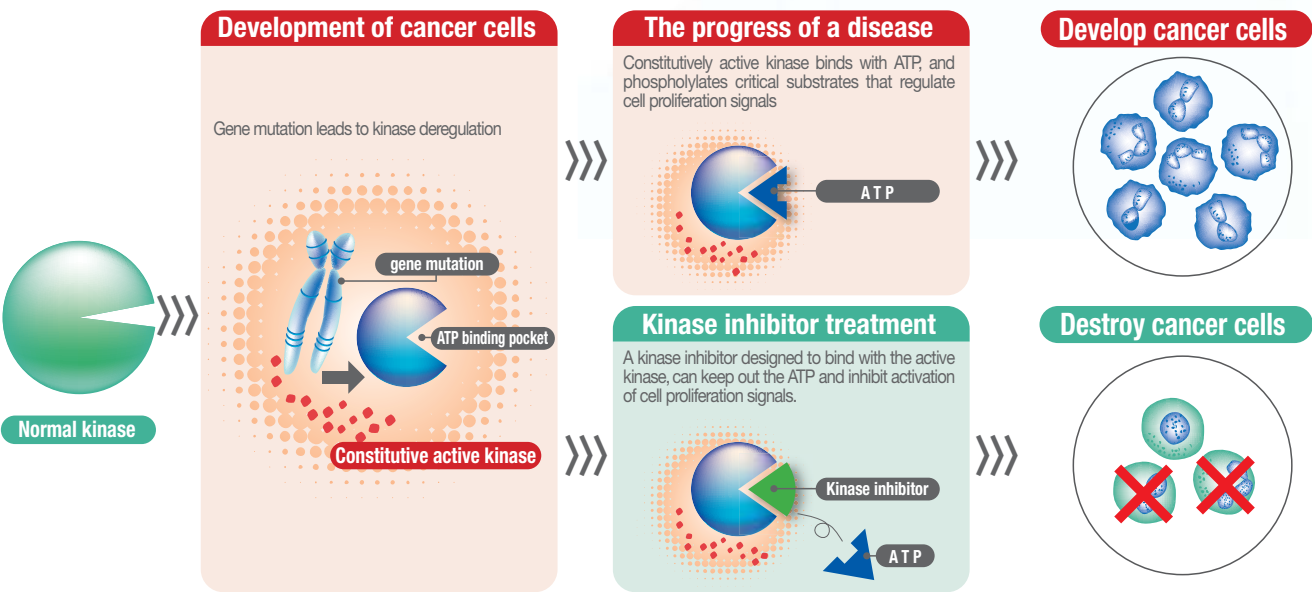
Protein Kinase

Protein kinases are enzymes that transfer a phosphate group of ATP to the specific target proteins. In human cells, a variety of extracellular stimuli generate intracellular signals of which mechanisms are reversible protein phosphorylation that are catalyzed by more than 500 members of protein kinases. The complex signaling networks by protein kinases regulate a wide range of biological events such as cell proliferation, differentiation, motility and secretion of physiologically active substances. Because of its biological importance, uncontrolled protein kinase function is known to be a cause of various diseases such as cancer, autoimmune, etc. Carna are focusing protein kinases as drug discovery targets.

Kinase Inhibitors

It has become clear that in cancer, malfunction of certain specific kinases cause abnormal proliferation and/or differentiation of cells. This finding has motivated pharmaceutical companies to pursue protein kinases as drug targets that now account for 20-30% of all drug discovery programs, and produced highly effective anti-cancer drugs with less adverse effects. Numerous kinase inhibitors are also currently undergoing preclinical and clinical evaluation.

■ Kinase inhibitor mechanism

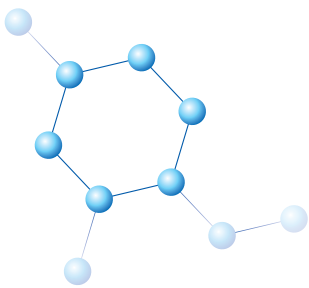


Kinase Proteins: Global Leading Product Lineup

■ Kinase kinds



As of the end of August 2008



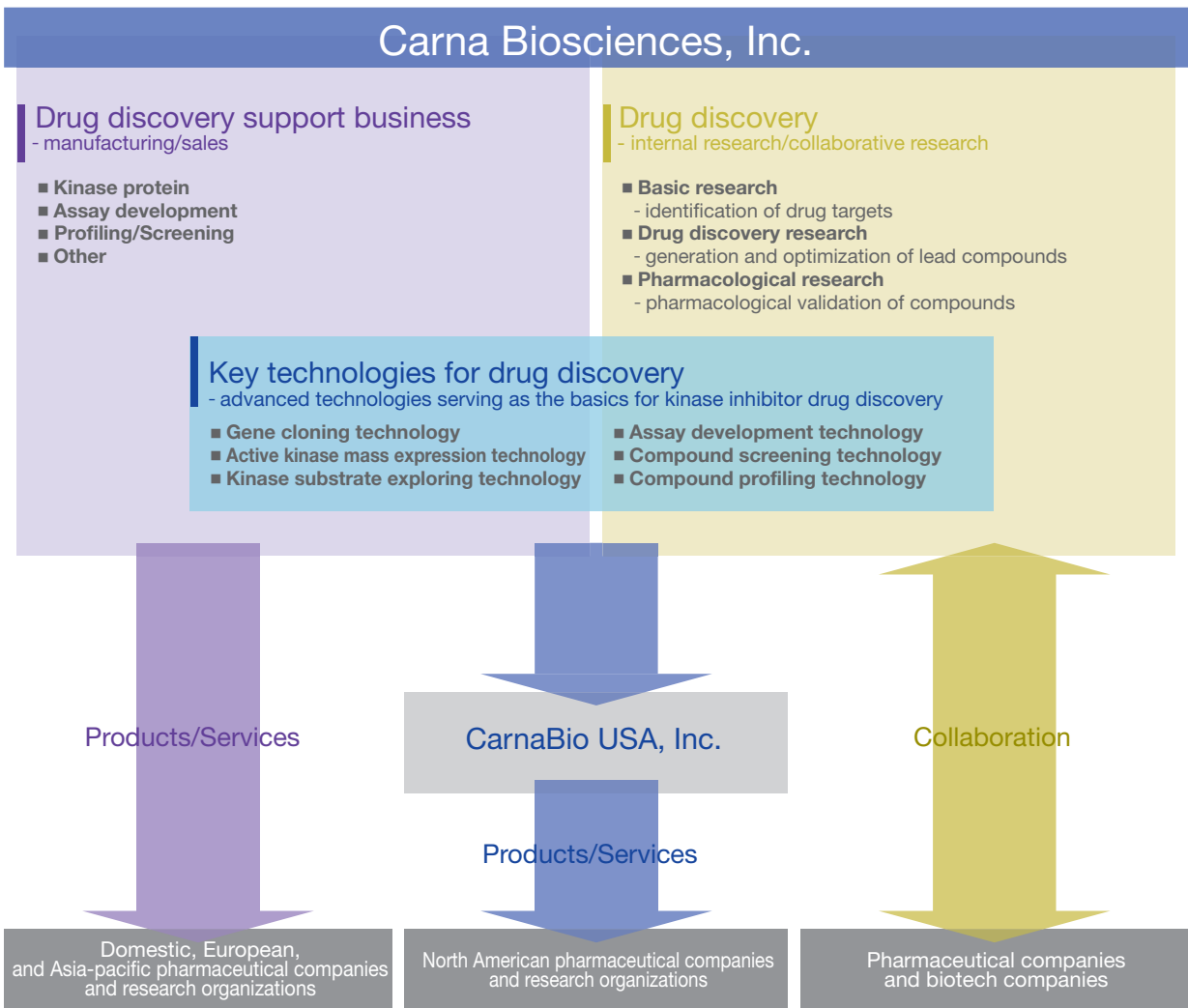
Segment Information

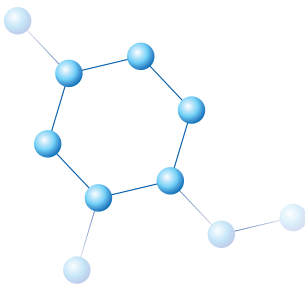


Carna consists of drug discovery support business and drug discovery, that are individually operated by common policy "key technologies for kinase inhibitor drug discovery."

In the drug discovery support business, we put efforts on research and development of recombinant human kinase proteins and their assay systems, which are required for kinase inhibitor drug discovery. Our main products and services include the kinase protein, kinase assay development, selectivity profiling, and X-ray crystal structure analysis of target protein.

In the drug discovery, we have own drug discovery programs to generate lead candidates in cooperation with other pharmaceutical companies and research organizations.





Segment Information

Drug discovery Support business

Carna has been establishing “key drug discovery technologies” which are required for kinase inhibitor drug discovery. With these technologies, Carna offers products and services to support your research in early stage, e.g. kinase protein, kinase assay development, selectivity profiling, and X-ray crystal structure analysis of target protein. Our products and services save costs and compress time consuming early drug discovery process.

Carna supports your drug discovery providing the following products and services.

Protein Kinase



At the end of August 2008, the products of recombinant protein comprised of 80 tyrosine kinases (including 12 active mutants), 217 serine/threonine kinases (including 2 active mutants), 7 inactive kinases and 7 inactive mutants. These active proteins are suitable for screening and profiling of kinase inhibitors. The highly purified proteins can be used for protein crystallographic study. The quantity range of the protein is from small (5 µg) to large (mg level).

Carna Biosciences will continuously develop human recombinant kinases that have physiological and pathological significance, and is aiming at offering all active kinases.

Assay Development



Carna possesses a lot of know-how on gene cloning, protein expression and purification, substrate identification and kinase assay development. Based on this know-how, Carna has developed kinase assay against 276 kinases using ELISA, IMAP and the microfluidic technology up to August 2008. Carna’s assay development products include the kinase assay kits, which are comprised of the kinase protein, its substrate, assay buffer and the protocol. Carna offers customization of the assay kits on demand.

Profiling



Profiling has become a standard role in the kinase inhibitor drug discovery process. By profiling against the largest panel of protein kinases, a detailed selectivity is revealed. This is information supports and accelerates drug development. Carna receives compounds from customers and reports the results of profiling as a contract service. With expertise to develop kinase assays and produce high-quality enzymes, Carna offers you excellent and reliable data.

Carna’s profiling service panel includes the largest, most diverse protein kinases in the world and is still under constant expansion.

As of the end of August 2008, Carna can offer 90 tyrosine kinases that include most in human genome and 185 serine/threonine kinases in the profiling panel with 1 lipid kinase. Carna has the QuickScout® select Panel (MAPK cascade panel, and pre-selected 20 tyrosine kinase and 30 serine/threonine kinase panel), of which kinases have been demonstrated to be physiologically important. The profiling data represents inhibitor potency and IC50 curves against any kinases on the profiling panel. The main platform of the profiling is microfluidic mobility shift assay using LabChip3000 (Caliper Life Sciences, Inc.).

Screening



Carna offers library screening services against the specific kinases as a contract service. Against 276 protein kinases, we are ready to perform high-throughput screening for your library in our facility. The main platform of library screening is the microfluidic mobility shift assay but it is also able to adapt other platforms (TR-FRET, IMAP™, AlphaScreen™, etc.).

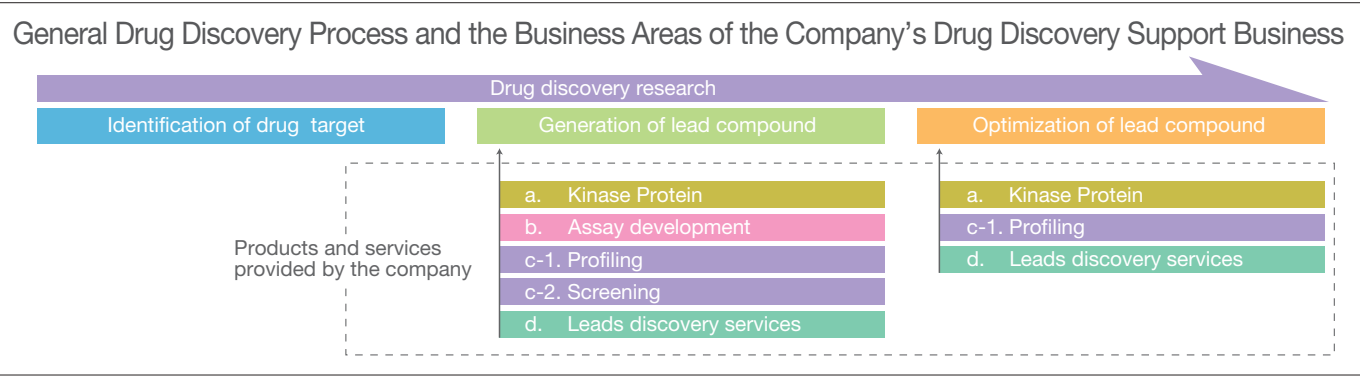
Other

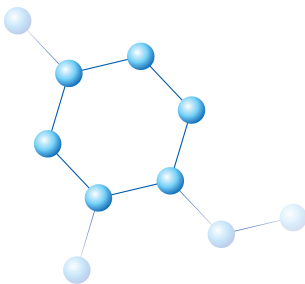
X-ray crystal structure analysis services

Carna concluded an exclusive distributorship agreement with Crystal Genomics Inc. (South Korea, “Crystal Genomics” below) in October 2004, with the X-ray crystal structure analysis services. Carna is sole distributor of crystallographic analysis services provided by Crystal Genomics. The co-crystallization with the compound and the kinase protein could provide useful information for structure-based drug design to optimize the lead compound in the drug discovery process.

Leads discovery services

Carna Biosciences concluded a collaboration and services agreement with OSI Pharmaceuticals, Inc. (USA) in October 2007 for a joint venture in the cooperative development of leads discovery service focusing on kinase targets.





Drug discovery

Kinase Inhibitor Programs



Carna Biosciences is building an internal drug pipeline through the application of our key technologies. We have successfully applied our proprietary kinase selectivity profiling, QuickScout® to generate novel, potent and selective lead compounds within a few months for many kinase targets. We are taking a rational approach to optimize a lead compound into drug candidates using X-ray co-crystallography information and computer-aided drug design. Our strategy for the further development of kinase inhibitors is to profile compounds against a panel of 276 kinases, and we believe this approach lead to a better understanding of structure-activity relationships, helping to avoid targets with toxicity and to select better drug candidates.



Drug Discovery Project
Research Pipelines for Kinase inhibitors

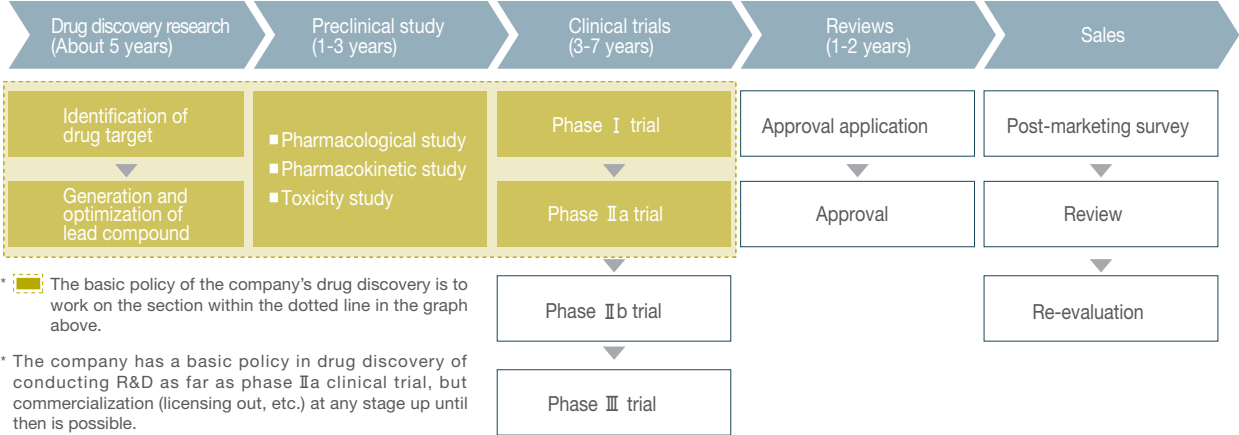
Project number	Disease Area	Lead Generation	Optimization	Preclinical
01	Immune disease and cancer			
02	Cancer			
03	Cardiovascular disease			
04	Cancer			



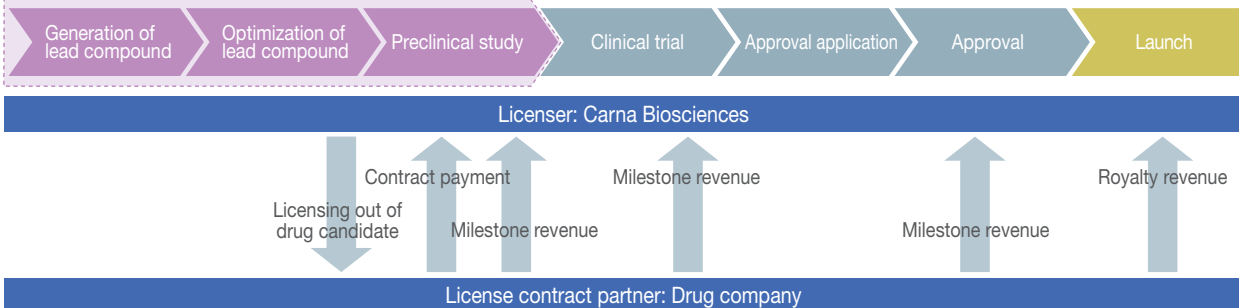
Revenue Model

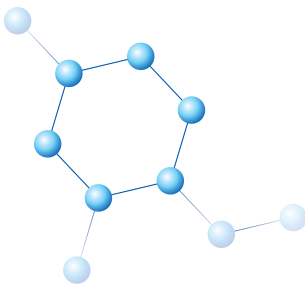
Carna Biosciences has a basic policy in drug discovery of conducting R&D as far as phase IIa clinical trial and considers outsourcing drug candidates to pharmaceutical companies at any of the stages prior to that. The company has envisioned a revenue model whereby outsourcing new drug candidates to pharmaceutical companies allows it to receive contract payments upon the conclusion of licensing contracts, milestone revenue based on licensing contracts for payment prior to entering each clinical trial, upon approval application and upon approval acquisition, and fixed rate royalties for sales or net sales of new drugs following their launches.

General Drug Discovery Process and Average Time Periods



Drug Discovery Revenue Model





Financial Statements

Balance Sheets

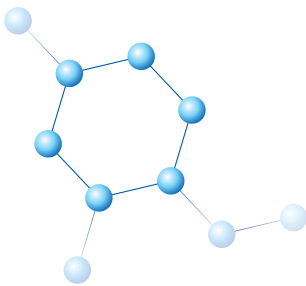
	FY2006 As of Dec. 31, 2006	FY2007 As of Dec. 31, 2007
Assets		
Current assets	1,589,488	1,351,810
Fixed assets	349,088	270,565
Tangible fixed assets	91,670	84,117
Intangible fixed assets	1,826	7,458
Investments and other assets	255,592	178,989
Total assets	1,938,577	1,622,375
Liabilities		
Current liabilities	185,982	148,609
Long-term liabilities	99,706	37,846
Total liabilities	285,689	186,455
Net Assets		
Shareholders' equity	1,595,267	1,415,438
Common stock	1,521,700	1,521,700
Capital surplus	1,467,500	73,567
Retained earnings	-1,393,932	-179,829
Valuation and translation adjustments	57,620	20,481
Total net assets	1,652,888	1,435,920
Total liabilities and net assets	1,938,577	1,622,375

Statements of Income

	FY2006 Jan. 1, 2006 - Dec. 31, 2006	FY2007 Jan.1 , 2007 - Dec. 31, 2007
Net sales	405,002	513,922
Cost of sales	98,705	99,136
Gross profit	306,296	414,786
Selling, general and administrative expenses	562,597	562,204
Operating loss	256,300	147,418
Non-operating income	5,843	8,698
Non-operating expenses	19,314	20,142
Ordinary loss	269,771	158,861
Extraordinary income	131	—
Extraordinary loss	62,365	19,963
Loss before income taxes	332,006	178,825
Income taxes	950	1,004
Net loss	332,956	179,829

Statements of Cash Flows

	FY2006 Jan. 1, 2006 - Dec. 31, 2006	FY2007 Jan. 1, 2007 - Dec. 31, 2007
Net cash provided by (used in) operating activities	-181,498	-192,603
Net cash provided by (used in) investing activities	-86,383	-66,228
Net cash provided by (used in) financing activities	1,521,701	-50,000
Effect of exchange rate changes on cash and cash equivalents	80	846
Increase in cash and cash equivalents	1,253,899	-307,984
Cash and cash equivalents at beginning of year	255,115	1,509,014
Cash and cash equivalents at end of year	1,509,014	1,201,029



Corporate Information

Profile

Name:	Carna Biosciences, Inc.	Board Members and Auditors	
Address:	KIBC 511, 5-5-2 Minatojima-Minamimachi, Chuo-ku, Kobe 650-0047, Japan	President and CEO:	Kohichiro Yoshino
Phone:	+81-78-302-7039	Chairman:	Norihiro Tsugi
Fax:	+81-78-302-6665	Director:	Hiroshi Ishiguro
Established:	April 10, 2003	Director:	Norio Aikawa
Capital:	1,964,570,000 yen (as of August 31, 2008)	Director:	Yutaka Shimakawa
Number of Employees:	42 (as of June 30, 2008)	Director:	Takashi Hara
		Director:	Satoru Iino
		Auditor (standing):	Astuo Arita
		Auditor:	Tsuguo Ogasawara
		Auditor:	Kiyoshi Nakai

Overseas Subsidiary

Name:	CarnaBio USA, Inc.	Phone:	+1-508-650-1244
President:	Takashi Hara	Fax:	+1-508-650-1722
Address:	209 West Center Street, Suite 127, Natick, MA 01760, USA	Established:	June 9, 2008
		Capital:	400,000 U.S. dollars

History

JUN 2008	Concluded a joint research agreement with National Cancer Center for anti-cancer drug
APR 2008	Established US subsidiary CarnaBio USA, Inc. in Boston suburb
MAR 2008	Listed on JASDAQ NEO securities exchange
OCT 2007	Concluded a collaboration and services agreement for a joint venture in lead compound discovery services with OSI Pharmaceuticals, Inc. (USA)
OCT 2007	Newly established a chemistry laboratory at the Kobe Healthcare Industry Development Center (HI-DEC) aiming at further acceleration in drug discovery research
APR 2007	Concluded a joint research agreement with SBI Biotech Co., Ltd. and Crystal Genomics Inc. for joint research on new drug candidate compound development (2nd step)
JUL 2006	Concluded a distributorship agreement with KinaseDetect ApS of Denmark
FEB 2006	Entered into collaboration with SBI Biotech Co., Ltd. and Crystal Genomics Inc. (South Korea) in joint research on new drug discovery on target kinases (1st step)
DEC 2005	Concluded an exclusive Japanese distributorship agreement with Toyobo Co., Ltd. for sales of kinase proteins
AUG 2004	Newly established research office at Business Support Center for Biomedical Research Activities (BMA, Kobe) and started animal experiments for initial evaluation of low molecular compounds
JUN 2004	Entered into collaboration with Crystal Genomics Inc. (South Korea) in joint research on new drug discovery on target kinases
APR 2003	Spin-off from Nippon Organon K.K. to establish Carna Biosciences, Inc. on Port Island, Kobe