

Organization

Cancer Institute Hospital

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|---------------------------|--|-------------------------------------|
| • Thoracic Center | • Medical Oncology | • Dentistry |
| • Gastroenterology Center | • Sarcoma Center | • Palliative Care & Pain Management |
| • Breast Oncology Center | • General Medicine | • Radiation Oncology |
| • Gynecologic Oncology | • Anesthesiology/Pain Service | • Diagnostic Imaging Center |
| • Head and Neck Oncology | • Plastic and Reconstructive Surgery | • Endoscopy |
| • Orthopedic Oncology | • Ophthalmology | • Comprehensive Medical Oncology |
| • Genitourinary Oncology | • Infectious Diseases | • Clinical Genetic Oncology |
| • Hematology Oncology | • KAMPO Support (Japanese Herbal Medicine) | |

Cancer Institute

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|--------------------------|-----------------------|---|
| • Pathology | • Cancer Biology | • Cancer Genomics |
| • Cell Biology | • Carcinogenesis | • Pathology Project for Molecular Targets |
| • Experimental Pathology | • Protein Engineering | |

Cancer Chemotherapy Center

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| • Experimental Chemotherapy | • Genome Research |
| • Molecular Pharmacology | • Clinical Chemotherapy |
| • Molecular Biotherapy | |

Genome Center

- Project for Generation of Therapeutic Antibodies with Novel Function
- Project for Development of Next-Generation Cancer Medicine
- Project for Realization of Personalized Cancer Medicine

Financial Data

Sources of Revenue	Millions of yen	
	FY2012	FY2013
Operational Revenue from the Endowment Fund	35	23
Hospital Revenue	29,321	29,751
Research Institute Revenue	307	307
Cancer Chemotherapy Center Revenue	66	42
Revenue from Subsidiary Aid and Donations	731	1,154
Non-operational Revenue	1,835	2,551
Total Revenue	32,295	33,829

Use of Revenue	Millions of yen	
	FY2012	FY2013
Hospital Expenditure	23,551	25,016
Research Institute Expenditure	1,225	1,253
Cancer Chemotherapy Center Expenditure	411	395
Administrative Expenditure	1,580	2,509
Non-operational Expenditure	563	514
Depreciation and Amortization	1,793	1,809
Total Expenditure	29,122	31,497

Notes: FY2012 (ended March 31, 2013); FY2013 (ended March 31, 2014)
As fractions were rounded up, the sum of the figures may not equal totals.

General Information

Beds	
General ward	665
ICU	10
Palliative care ward	25
Total	700

Staff (as of April 1, 2014)	
Doctors	286
Nurses	731
Medical Technologists	364
Administration and others	193
Total	1,574

Research

Academic Papers Published	
English	172
Japanese	362
Total	534

Patient Care (FY2013 ended March 31, 2014)

Outpatients	
Annual total outpatients	395,363
Daily average	1,620
Ambulatory Therapy Center	28,609

Inpatients	
Annual total inpatients	215,094
Daily average	589
Actual patients	10,152
Bed occupancy rate (%)	84.2
Average length of stay (day)	13.1

Surgeries	
Annual total	7,449
Surgery hours (total)	23,286

Radiation Therapy (cases)	36,086
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Ultrasound Examinations	56,102
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Image Diagnoses	211,516
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Pathological Diagnoses	
Total	25,824
Frozen diagnosis	4,206

Endoscopy	
Examinations	24,739
Treatments	3,281

Original Publications: 76 papers (2013)

Research Groups

	Groups	Staff Scientists and Assistants	Students
Cancer Institute	8	146	57
Cancer Chemotherapy Center	5	48	43
Genome Center	3	14	2

Featured Articles

Title A small compound targeting TACC3 revealed its different spatiotemporal contributions for spindle assembly in cancer cells. *Oncogene* (Oncogene doi: 10.1038/onc.2013.382)

Authors Yao R, Kondoh Y, Natsume Y, Yamanaka H, Inoue M, Toki H, Takagi R, Shimizu T, Yamori T, Osada H, Noda T.

Summary Using a novel compound targeting TACC3, spindlactone (SPL), it was shown that the perturbation of TACC3 selectively inhibited the nucleation of centrosome microtubules in ovarian cancer cells. The finding offers an opportunity to develop new strategies for cancer chemotherapy that overcome the limitations of microtubule toxins and expand their scope and clinical efficacy.

Title Obesity-induced gut microbial metabolite promotes liver cancer through senescence secretome (*Nature* 499:97-101, 2013)

Authors Yoshimoto S, Loo TM, Atarashi K, Kanda H, Sato S, Oyadomari S, Iwakura Y, Oshima K, Morita H, Hattori M, Honda K, Ishikawa Y, Hara E, Ohtani N.

Summary Senescence-associated secretory phenotype (SASP) has crucial roles in promoting obesity-associated hepatocellular carcinoma (HCC) development in mice. Dietary or genetic obesity induces alterations of gut microbiota, thereby increasing the levels of deoxycholic acid (DCA), a gut bacterial metabolite known to cause DNA damage.

Title Telomere length influences cancer cell differentiation in vivo (*Mol Cell Biol.* 33: 2988-2995, 2013)

Authors Hirashima K, Migita T, Sato S, Muramatsu Y, Ishikawa Y, Seimiya H.

Summary While telomere elongation by telomerase supports cancer cell immortality, it remained elusive as to why cancer cells often maintain shorter telomeres than the cells in the surrounding normal tissues. The authors demonstrated that short telomeres upregulate cancer-related genes and maintain the tumors in an undifferentiated state in vivo.

Awards

Aki Aoyama Division of Experimental Chemotherapy of the Cancer Chemotherapy Center
Excellent Young Scientist Oral Presentation Honorable Mention; November 8, 2013

Rie Ouchi Division of Molecular Biotherapy of the Cancer Chemotherapy Center
Young Scientist Superior Oral Presentation Award; November 8, 2013

Kengo Takeuchi Pathology Project for Molecular Targets of The Cancer Institute
JFCR Academic Award; January 2013

Kengo Takeuchi Pathology Project for Molecular Targets of The Cancer Institute
The Third JCA-CHAAO Award; October 2013

Mitsuaki Yoshida Center Director's Room of the Cancer Chemotherapy Center
The Order of the Sacred Treasure, Gold Rays with Neck Ribbon; November 3, 2013

Yuji Mishima Division of Clinical Chemotherapy of the Cancer Chemotherapy Center
Abstract Achievement Award (55th ASH Annual meeting (American Society of Hematology (ASH)));
December 7, 2013

Seminars

Date	Speaker	Affiliation	Title
Seminars			
2013/10/7	Koji Eto	Center for iPS Cell Research and Application, Kyoto University	Issues in the development of iPS-cell-derived platelet and red blood cell products
2013/10/8	Takahiro Ochiya	National Cancer Center Research Institute	Identifying disease-specific exosomes and applications for diagnosis and treatment
2013/10/31	Shigeo Masuda	Salk Institute for Biological Studies	Results of translational research using large animals
Cutting-edge Research Seminars			
2013/1/31	Michiaki Kubo	RIKEN	The ten-year outcome and future prospects of the tailor-made medicine project
2013/1/31	Shunsuke Kon	Institute of Development, Aging and Cancer, Tohoku University	The deficiency of SMAP1, a clathrin vesicle formation factor, leads to abnormal transportation of intracellular vesicles, inducing myeloid dysplasia
2013/2/6	Franziska Schmitz	Ludwig Maximilians University, Munich	cis regulatory regions of egl-1: a key player in the apoptosis pathway of <i>C. elegans</i>
2013/4/9	Sotaro Uemura	RIKEN	The development of non-amplification single cell sequencer
2013/7/4	Yoshiki Murakami	Osaka City University, Graduate School of Medicine	The development of the diagnostic method for chronic hepatic diseases using functional RNA in exosome
2013/7/5	Makoto Hasegawa	Nagahama Institute of Bio-Science and Technology	The application of the fluorescence correlation spectrometry for clinical specimen analysis - for diagnosis of exosomes
2013/7/26	Hiroshi Matsui	Hunter College of CUNY	Cancer sensor/enrichment lab-on-a-chip without labeling via osmotic pressure-induced dielectrophoresis and new discovery method of enzyme-mimicking catalytic peptides for cancer drug synthesis
2013/8/27	Atsuya Nishiyama	Nagoya City University	The control mechanism of DNA maintenance methylation through ubiquitination of histone H3
2013/9/18	Tatsuya Nishino	National Institute of Genetics	The structure and functions of components of kinetochore in vertebrate animals
2013/12/10	Tatsuya Kibe	Rockefeller University	Clarification of the end-resection mechanism in telomere
2013/12/12	Daisuke Izawa	University of Cambridge	New knowledge for spindle checkpoint essential for genome maintenance
2013/12/18	Chikashi Obuse	Hokkaido University, Graduate School of Life Science	The structure and functions of heterochromatin stemming from analysis of HP1