

Organization

Cancer Institute Hospital

• Thoracic Center	• Medical Oncology	• Infectious Disease
• Gastroenterology Center	• Sarcoma Center	• Chinese Herbal Medicine
• Breast Oncology Center	• Palliative Therapy	• Dentistry
• Gynecological Oncology	• General Medicine	• Radiation Oncology
• Head and Neck Oncology	• Anesthesiology/Pain Service	• Diagnostic Radiology Center
• Orthopedic Oncology	• Psycho-Oncology	• Endoscopy
• Genitourinary Oncology	• Plastic and Reconstructive Surgery	• Comprehensive Medical Oncology
• Hematology Oncology	• Ophthalmology	• Clinical Genetic Oncology

Cancer Institute

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

Cancer Chemotherapy Center

• 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	
	FY2011	FY2012
Operational Revenue from the Endowment Fund	36	35
Hospital Revenue	27,554	29,321
Research Institute Revenue	301	307
Cancer Chemotherapy Center Revenue	106	66
Revenue from Subsidiary Aid and Donations	892	731
Non-operational Revenue	1,554	1,835
Total Revenue	30,443	32,295

Use of Revenue

	Millions of yen	
	FY2011	FY2012
Hospital Expenditure	22,743	23,551
Research Institute Expenditure	1,111	1,225
Cancer Chemotherapy Center Expenditure	305	411
Administrative Expenditure	1,761	1,580
Non-operational Expenditure	761	563
Depreciation and Amortization	1,632	1,793
Total Expenditure	28,314	29,122

Notes: FY2011 (ended March 31, 2012); FY2012 (ended March 31, 2013)
As fractions were rounded up, the sum of the figures may not equal totals.

Cancer Institute Hospital

FY 2012 ended March 31, 2013

Number of Beds	
General ward	667
ICU	8
Palliative care ward	25
Total	700

Number of Outpatients	
New patients	9,247
Second opinion patients	2,756
Total annual number of patients	404,753
Daily average	1,575
Ambulatory Therapy Center	28,006

Number of Inpatients	
New patients	15,406
Actual patients	14,426
Daily average	605
Bed occupancy rate (%)	86.4
Average length of stay (day)	
General ward	14.0
Palliative care ward	35.3
Total Annual Number of Patients	
Palliative care ward	7,764
General ward	212,878

Surgery	
Number of surgeries	7,404
Number of surgeries performed under general anesthesia	6,467
Number of surgeries performed under epidural or local anesthesia	937
Surgery hours (total)	22,850
Surgery hours (general anesthesia)	22,355

Details of Surgeries	
Thoracic surgical oncology	465
Gynecological oncology	1,015
Breast surgical oncology	1,232
Gastroenterological surgery	2,008
Orthopedic oncology	541
Plastic and reconstructive surgery	313
Genitourinary oncology	888
Head and neck oncology	677
Ophthalmology	155
EMR	35
Others	75
Total	7,404

Number of Radiation Therapy	
Irradiation Method	
IMRT	5,830
SRT	86
RALS	265
Perpetual Insertion Method	17
Single portal or opposing portal irradiation	7,590
Non-opposing portal or 3 portal irradiation	7,750
Irradiation using 4 portals or more	18,667
By Disease	
Esophageal cancer	77
Non small cell lung cancer	81
Small cell lung cancer	15
Mediastinal cancer	5
Stereotactic lung irradiation	36
Prostate cancer	130
Breast cancer	372
Head and neck cancer	196
Cervical cancer	87
Gynecology, etc.	26
Rectal cancer	83
Urinary organ cancer	7
Hepato-biliary pancreatic cancer	7
Bone/soft tissue cancer	30
Metastasis	462
Malignant lymphoma	84
Others	20

Number of Pathological Diagnoses	
Overall	30,852
Frozen diagnosis	3,837

Number of Endoscopic Treatments	
Examinations	
Upper	16,155
Lower	9,007
Treatments	
Upper	562
Lower	2,750

Number of Ultrasound Examinations	
Abdomen	12,825
Mammary gland	20,271
Head and neck	5,569
Echocardiogram	611
Cancer Screening Center	14,312
Others	5,253
Total	58,841

Number of Image Diagnoses	
PET-CT (incl. PET)	6,070
CT	39,967
MRI	9,427
Angiography	652
Mammography	16,369

Number of Clinical Examinations	
General test	88,693
Blood test	532,576
Immunobiochemistry test	4,080,495
Physiological test	28,148
Bacteriological test	45,881

Staff (as of April 1, 2013)	
Doctors	
Full-time	280
Part-time	119
Nurses	
Full-time	700
Part-time	24
Medical Technologists	
Full-time	354
Part-time	17
Main Medical Technologists (Full-time)	
Pharmacy	65
Clinical Examination Center	59
Clinical Pathology Center	8
Radiation Oncology	23
Diagnostic Radiology	49
Rehabilitation	5
Clinical Nutrition	30
Administration (Full-time)	163
Total (Full-time)	1,497

Original Publications:

91 papers (2011), 111 papers (2012)

Research Groups

	Groups	Staff Scientists and Assistants	Students
Cancer Institute	8	145	59
Cancer Chemotherapy Center	5	61	35
Genome Center	3	8	1

Featured Articles

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: RET, ROS1 and ALK fusions in lung cancer (Nat Med. 18: 378-381, 2012)

Authors: Takeuchi K, Soda M, Togashi Y, Suzuki R, Sakata S, Hatano S, Asaka R, Hamanaka W, Ninomiya H, Uehara H, Lim Choi Y, Satoh Y, Okumura S, Nakagawa K, Mano H, Ishikawa Y.

Summary: Through an integrated molecular- and histopathology-based screening system, we performed a screening for fusions of anaplastic lymphoma kinase (ALK) and c-ros oncogene 1, receptor tyrosine kinase (ROS1) in 1,529 lung cancers and identified 44 ALK-fusion-positive and 13 ROS1-fusion-positive adenocarcinomas, including for unidentified fusion partners for ROS1.

Title: Separase sensor reveals dual roles for separase coordinating cohesin cleavage and cdk1 inhibition (Dev Cell. 23: 112-123, 2012)

Authors: Shindo N, Kumada K, Hirota T.

Summary: The development of separase sensor indicates for the first time that this protease undergoes an abrupt activation shortly before anaphase onset in the vicinity of chromosomes. By consecutively acting as a cdk1 inhibitor, separase coordinates two key processes to achieve simultaneous and abrupt separation of sister chromatids, and prevents the generation of aneuploid cells.



Featured Articles

Title: ZSTK474, a specific phosphatidylinositol 3-kinase inhibitor, induces G1 arrest of the cell cycle in vivo (Eur J Cancer 48: 936-943, 2012)

Authors: Dan S, Okamura M, Mukai Y, Yoshimi H, Inoue Y, Hanyu A, Sakaue-Sawano A, Imamura T, Miyawaki A, Yamori T.

Summary: ZSTK474, a phosphatidylinositol 3-kinase (PI3K) inhibitor, is a promising therapeutic target, but how it inhibits tumour cell proliferation remains unknown. Here we found that ZSTK474 exerts its in vivo antitumour efficacy via G1 arrest but not via apoptosis as long as it is administered, and could be used for months as maintenance therapy for patients with advanced cancers.

Title: Cytotoxic activity of tivantinib (ARQ 197) is not due solely to c-MET inhibition (Cancer Res. 73: 3087-3096, 2013)

Authors: Katayama R, Aoyama A, Yamori T, Qi J, Oh-hara T, Song Y, Engelman JA, Fujita N.

Summary: The HGF/c-MET axis is often dysregulated in tumors and a small-molecule c-MET inhibitor Tivantinib shows antitumor activity. Here we found that Tivantinib-treated cells showed typical microtubule disruption similar to vincristine and inhibited microtubule assembly, suggesting that tivantinib inhibits microtubule polymerization in addition to inhibiting c-MET.

Awards

- 1) Miwa Tanaka: Poster Award at the Workshop for Cancer Research Using Animal Models; January 19, 2012
- 2) Lina Marcela Gallego-Paez: Dean's Poster Award at The Research Achievements of Global Center of Excellence (GCOE) Program; January 2012
- 3) Kota Nagasaka: Dean's Poster Award at The Research Achievements of Global Center of Excellence (GCOE) Program; January 2012
- 4) Takuro Nakamura: Award of the Japanese Society of Pathology; April 27, 2012
- 5) Yoshimi Ohashi: Poster Award of the Japanese Association for Molecular Target Therapy of Cancer; June 29, 2012
- 6) Yoshinori Imai: Best Presentation Award of the Cancer Young Researcher Workshop; September 8, 2012
- 7) Akiko Takahashi: Incentive Award of the Japanese Cancer Association; September 20, 2012

Seminars

Date	Speaker	Affiliation	Title
2012/4/21	Irene M. Ghobrial	Dana-Farber Cancer Institute, USA	Cell trafficking in multiple myeloma
2012/4/24	Kenro Taki	University of Tokyo	Rules and tips for biosafety manipulations
2012/5/8	Tomomasa Yokomizo	Juntendo University	How do hematopoietic stem cells develop?
2012/5/24	Anne-Maree Pearse	Tasmania Animal Health Lab, Australia	Clarification of cancer-cell transmission in Tasmania Devil facial tumor disease
2012/5/24	Helder Maiato	IBMC Universidade do Porto, Portugal	Design principles behind mitotic spindle assembly
2012/10/24	Manuel Serrano	Spanish National Cancer Research Centre (CNIO)	Tumor suppressors at the interface between cancer and aging
2012/10/26	Judith Campisi	Buck Institute for Research on Aging, USA	Cancer and aging: rival demons?
2012/11/3	Kevin M. Ryan	Beatson Institute for Cancer Research, UK	Autophagy in cell death and cancer
2012/12/1	Ana Losada	Spanish National Cancer Research Centre (CNIO)	Mouse models to explore cohesin functions
2012/12/4	Eric Gilson	Institute for Research on Cancer and Ageing, France	Non-canonical functions of the telomeric protein TRF2 modulate NK cell activation and neo-angiogenesis
2013/1/5	Seiichi Matsumoto	Cancer Institute Hospital, Sarcoma Center	Department of orthopedic surgery in Cancer Institute Hospital: from motor system tumors to sarcomas
2013/1/25	Shuji Ogino	Harvard Medical School of Public Health, USA	Molecular pathological epidemiology (MPE) of cancer: novel integrative science
2013/2/8	Yutaka Takazawa	University of Tokyo Hospital, Dept of Pathology	Current clinical pathology: diagnosis, research and autopsy
2013/3/8	Ai Takemoto	Rockefeller University, USA	Toward understanding the mechanism of mitotic chromosome assembly
2013/3/22	Masayuki Nagahashi	Virginia Commonwealth University, USA	Sphingosine-1-phosphate links persistent STAT3 activation, chronic intestinal inflammation, and development of colitis-associated cancer

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Chart of the Radiation Therapy should be as follows.

Number of patients treated with Radiotherapy	
Irradiation Method	
3-D conformal radiation therapy	34,007
Intensity modulated radiation therapy/ Volumetric modulated arc therapy	5,830
Stereotactic body radiation therapy	86
High dose rate brachytherapy (RALS)	265
Permanent iodine seed implantation	17
By Disease	
Head and neck cancer	196
Breast cancer	372
Lung cancer	132
Esophageal cancer	77
Mediastinal tumor	5
Hepato-biliary and pancreatic cancer	7
Rectal cancer	83
Gynecological cancer (Cervical cancer, etc)	113
Genitourinary cancer (Prostate cancer, etc)	137
Lymphoma	84
Sarcomas	30
Metastasis (palliative RT: brain, bone)	462
Others	20