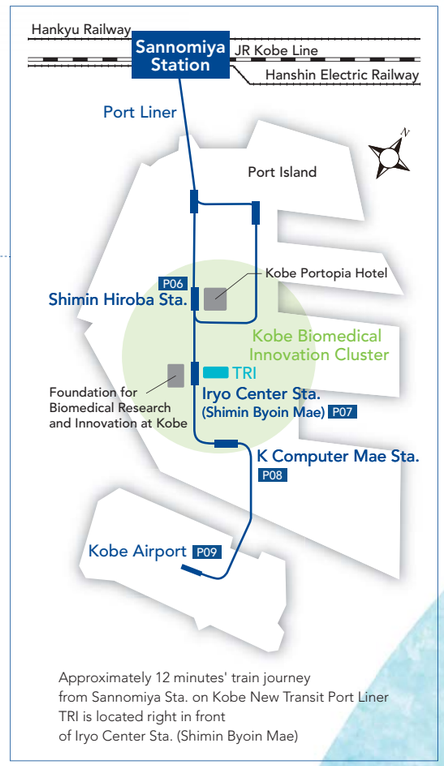
Translational Research Center for Medical Innovation

Foundation for Biomedical Research and Innovation at Kobe

Striving to Control Diseases



Approximately 12 minutes' train journey
from Sannomiya Sta. on Kobe New Transit Port Liner
TRI is located right in front
of Iryo Center Sta. (Shimin Byoin Mae)

Founded in 2003

Translational Research Center for Medical Innovation

Foundation for Biomedical Research and Innovation at Kobe

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Translational Research Center for Medical Innovation

Foundation for Biomedical Research and Innovation at Kobe

Striving to control diseases

We have relentlessly sought to enhance therapeutic outcomes and improve prognoses of intractable diseases.

The Translational Research Center for Medical Innovation (“TRI”) (formerly known as the Translational Research Informatics Center) was established by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) and the City of Kobe in 2003 as the first academic data center and statistical analysis center for clinical studies in Japan. TRI provides all medical doctors and researchers who play a key role in clinical trials and clinical studies with comprehensive support ranging from research consultation, planning, data analysis, through research paper writing.

TRI pursues a wide range of technical innovation, infrastructure development, and scientific creation. Through the further improvement of clinical trials and clinical studies conducted in Japan, TRI remains committed to improving the health of our nation.

Action Policy / Organization

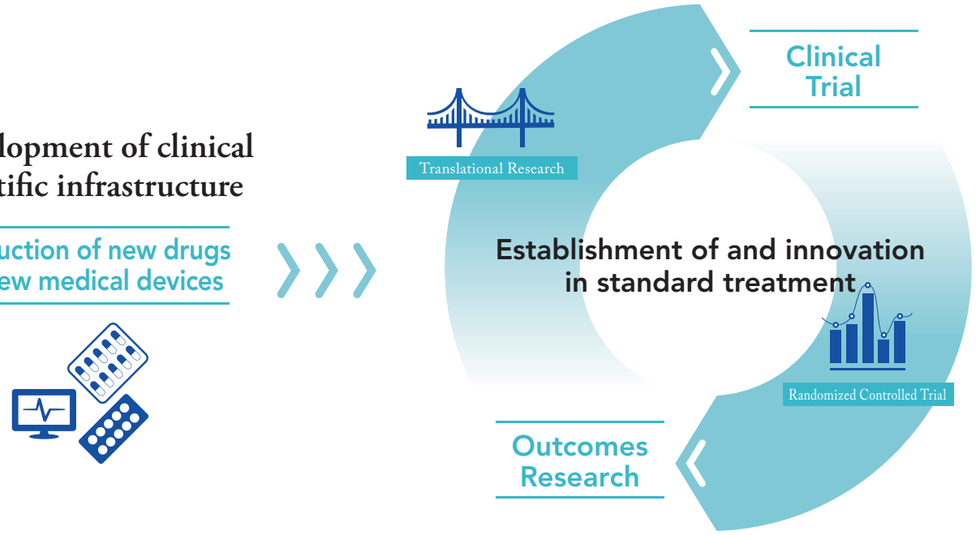
TRI has consistently undertaken infrastructure development to support and promote translational research in Japan.
To further enhance Japan's medical excellence, we,
as life science professionals offering high quality specialized services,
promote research and development in new medical innovation
and lead the way in controlling diseases.

Action Policy

Goal
- Enhance therapeutic outcomes and improve prognoses of intractable diseases such as cancer, heart disease, stroke, and Alzheimer's disease.

Mission
- Innovation in standard treatment
- Promote development of new diagnostic, therapeutic, and preventive strategies

Approach
- Planning and effective operation of Phase I, II, and III clinical trials
- Planning and effective operation of cohort studies



Organization

A team of experts to oversee the seamless launch and operation of clinical trials and clinical studies.

At TRI, we have a team of specialists, including medical supervisors, biostatisticians,
project managers, data managers, system engineers, IP specialists,
and financial/contract specialists,
who are dedicated to comprehensively promoting and managing clinical trials and clinical studies.
In doing so, these experts leverage the know-how that they have amassed over the years
and look at the projects from the scientific perspective of R&D professionals.

Key areas of activity

The contents of this brochure is based on the achievements until March 31, 2018.

Three key areas of activity for disease control

TRI's three key areas are: promotion and management of translational research;
promotion, management, and operation of clinical trials and large-scale cohort studies;
and dissemination of medical and clinical research information.
Our multi-disciplinary teams of specialists effectively utilize the know-how they have acquired over their long professional careers and their abundant experiences to look at plans of action to control diseases from various angles and identify the shortest possible path to the goal.

TRI's strengths

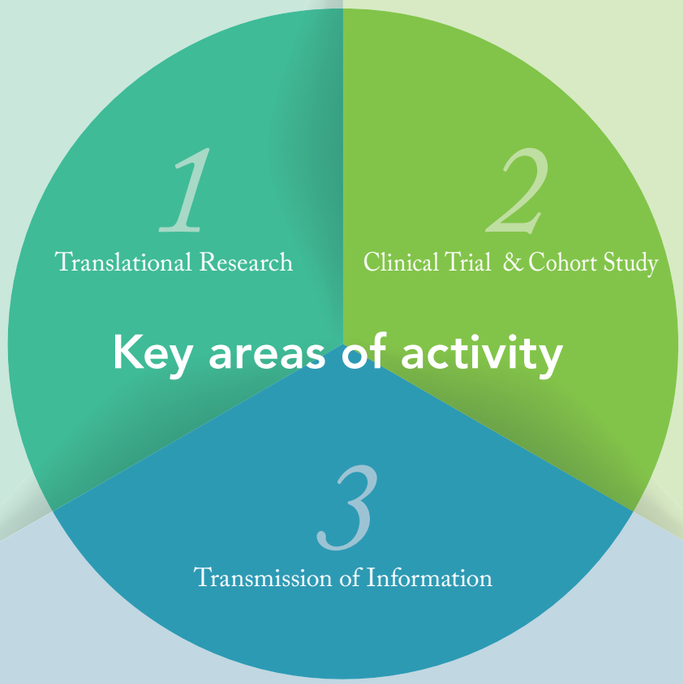
- Accumulation of know-how and experiences with a number of projects commissioned by MEXT, MHLW, and AMED.
- Concentration of information for research utilization support in the TR-SPRINT of AMED
- Close collaborations with hospitals and research groups
- Opening of a consultation desk for clinical trials, and provision of relevant information
- Patent surveys and designing IP strategies
- Liaison and licensing with corporations
- Guarantee of independence from individuals/entities conducting clinical trials
- Ability to develop protocols independently
- Independently developed high-quality EDC system
- Rigorous data management system
- Various trial management and promotion systems
- Adaptability of quality control levels
- Specimen storage systems that protect personal information
- Systems for preventing human and electronic invasions

Promotion and management of translational research

In an effort to strengthen academic R&D pipelines and build academic research organization (ARO) networks through a number of projects commissioned by MEXT, MHLW, and AMED, TRI vigorously undertakes infrastructure development to support and promote translational research in Japan.

Promotion, management, and operation of clinical trials and large-scale cohort studies

TRI performs data accumulation with higher levels of quality control. TRI has a system in place to ensure the proper and effective collection and management of data for large-scale cohort studies and provides comprehensive support to research management and operation.



Dissemination of medical and clinical research information

TRI is committed to providing doctors and researchers with information they require for research implementation. We continuously make the latest information available to researchers and patients alike, on our website as well as on a wide range of media and through PR activities including seminars and symposia.

Three key areas of activity

1 Translational Research

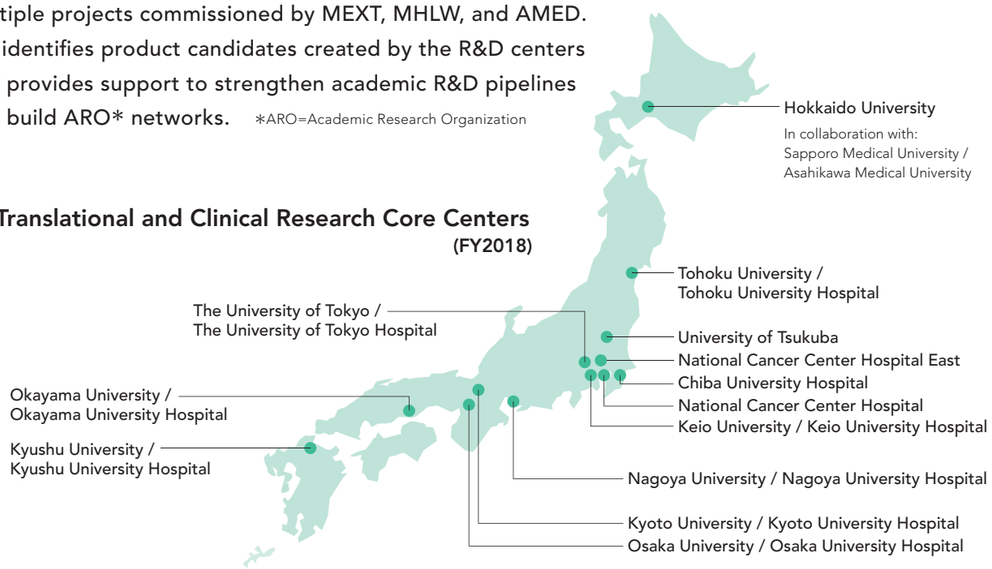
Promotion and management of translational research

The contents of this brochure is based on the achievements until March 31, 2018.

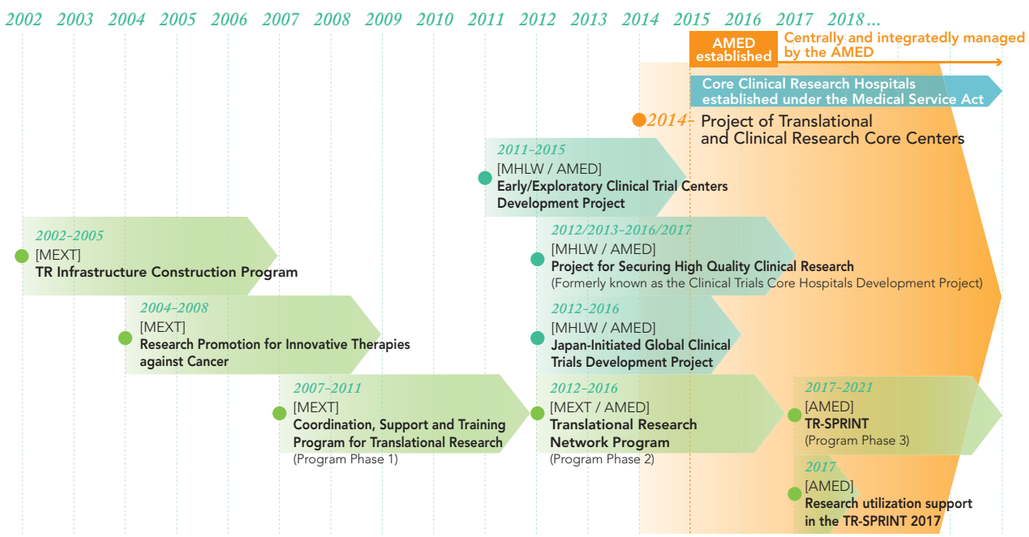
TRI undertakes infrastructure development to support and promote R&D in new medical technology.

TRI has provided support to the development of academic R&D centers through multiple projects commissioned by MEXT, MHLW, and AMED. TRI identifies product candidates created by the R&D centers and provides support to strengthen academic R&D pipelines and build ARO* networks. *ARO=Academic Research Organization

Translational and Clinical Research Core Centers (FY2018)



History of the promotion of translational research



2014 The Project of Translational and Clinical Research Core Centers started in 2014.

The Project of Translational and Clinical Research Core Centers was launched in 2014 under the supervision of the Headquarters for the Health and Medical Strategy Promotion of the Japanese government. It is a project that integrated the Early/Exploratory Clinical Trial Centers Development Project, the Clinical Trials Core Hospitals Development Project, the Japan-Initiated Global Clinical Trials Development Project, and the Translational Research Network Program. Following the establishment of the Japan Agency for Medical Research and Development (AMED) in 2015, this project was transferred to AMED for its central and integrated management in order to build academic R&D pipelines that continuously produce innovative drugs and medical devices and technologies.
In collaboration with AMED, TRI has supported R&D centers participating in this project by providing its development know-how. In consequence, a total of over 1,200 pipelines have been created at all the centers and the system to create innovation at each center has almost been completed.
TRI has engaged in research utilization support for the Translational Research program; Strategic PRomotion for practical application of INnovative medical Technology (TR-SPRINT) since 2017. TRI continues to provide its support in wider fields including liaison with corporations and global clinical development in order to strategically translate a portfolio of product candidates created by the R&D centers to cure intractable diseases into practical applications.

Support tool R&D Pipeline Management System

The R&D Pipeline Management System is an IT system that is used to oversee a whole of product candidates and systematically perform protocol management and development promotion. It is a requisite database tool for central and integrated management of each R&D centers product candidates and to facilitate development management including portfolio management.

Eight pillars

1. Advanced inventory management at all R&D centers
2. Support tool development, upgrading, provision, and maintenance
3. QMS system and audit system development support
4. Network development and enhancement
5. Innovation enhancement
6. Improved IP management
7. Liaison with corporations
8. Education

ARO Council's website

Support for ARO Council

ARO Council was established in 2013 to contribute to the promotion of good health and the improvement of public health through safer and more effective medical treatment in collaboration with academic R&D centers from all over Japan participating in MEXT's Coordination, Support and Training Program for Translational Research. TRI has provided its support for ARO Council's secretarial services since its establishment.

The contents of this brochure is based on the achievements until March 31, 2018.

Research utilization support in the TR-SPRINT of AMED's Project of Translational and Clinical Research Core Center.

TRI has supported R&D center infrastructure development through quite a few programs commissioned by MEXT and MHLW. After the operation transfer from the ministries to AMED, TRI has kept the supporting role in the promotion of the programs in partnership with AMED. We have all too often seen the research and development of some of the promising product candidates being suspended or terminated because of the lack of support from the R&D centers, the lack of research funding, and/or the failure of liaison with corporations. We therefore identified three pillars of support, namely (1) portfolio strategy development, (2) support for liaison with corporations, and (3) global clinical development support, and started providing support in translating research outcomes into practical applications.

1 Portfolio strategy development

Identifying academic research status for diseases and technologies and defining medical positioning

Translational and Clinical Research Core Centers have generated over 1,200 product candidates so far and the number is expected to increase even more in the future. TRI prepares disease and technology portfolios and organizes strategic meetings for overcoming diseases for leading academics and researchers. Based on the concentration levels of product candidates on rare diseases and marketing approvals, TRI makes post-marketing product candidates sales forecasts and calculates returns for the R&D centers.

Strategic meetings for overcoming disease ＊Closed Meeting

Meeting name	No. of participants
Gene therapy	28
Mitochondria	37
Ulcerative colitis	29
Amyotrophic Lateral Sclerosis (ALS)	25
Mild Cognitive Impairment (MCI) / Alzheimer's disease	27
Regenerative medicine	41
Brain Machine Interface (BMI) / Sensing	30
Next generation cancer treatment	27
Autism	29
Retinal diseases	35
Infectious diseases	28

2 Support for liaison with corporations

Translating product candidates into practical applications Linking academia and industry

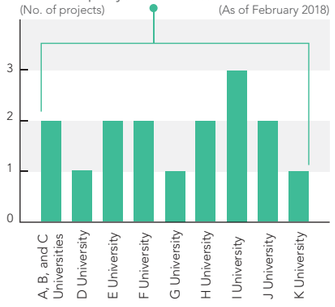
We focus on important academic product candidates that can be translated into practical applications. We take advantage of our own know-how and experience to successfully achieve academia-industry collaborations. Liaison with corporations can be challenging, but we are committed to promoting investigator-initiated development projects and leveraging our academic network in marketing.

Product candidates introduced by TRI

No. of product candidates introduced from R&D centers

16 projects in total

(No. of projects) (As of February 2018)



No. of product candidates introduced to industry

21 projects in total

Companies	No. of projects
Company a	4
Company b	6
Company c	1
Company d	1
Company e	3
Company f	3
Company g･h	1
Company g･i	1
Company j	1
21 projects in total	

3 Global clinical development support

Developing international alliances to bring academic product candidates to the global market.

To establish a foundation for innovation, TRI is developing two kinds of global networks; namely ARO network and disease-specific network. The ARO network is a network of organizations responsible for managing clinical trials while the disease-specific network is primarily managed by the disease-specific registry. By organizing workshops on a continuous basis, building a network of AROs in Asia, the US and Europe, and pursuing global patient registrations, TRI is speeding up its efforts to control diseases and developing a mechanism for translating product candidates of R&D centers into practical applications on a global basis.

Our Global Alliance Network

As of 2018

★TRI Operation Offices
(Russia, Singapore, China, EU, US, Korea)

★Mutual Introduction Offices for R&D Products
(France, Korea)

● Participating Institutions of Collaborative Studies
(Korea, Russia, Lithuania, UK, Germany, Italy, Vietnam, China, Taiwan)

● Translation Alliances of Guidelines or Publications
(NIH; NCI / NIA, NCCN)

Three key areas of activity

2 Clinical Trial & Cohort Study

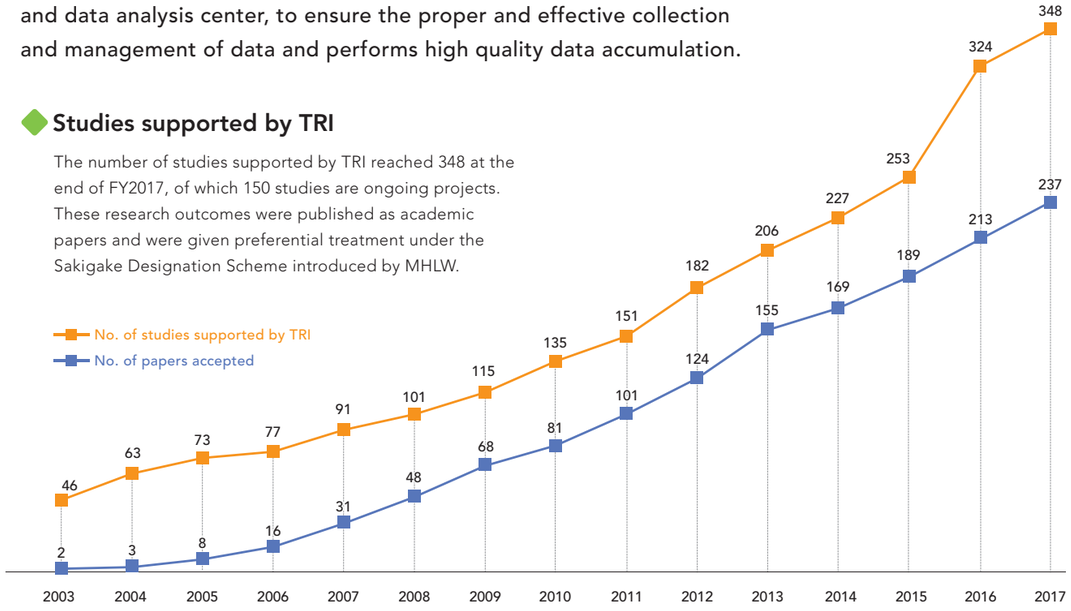
Promotion, management, and operation of clinical trials and large- scale cohort studies

We support all types of clinical trials and clinical studies with the aim of developing novel diagnostic, therapeutic, and preventive methodologies.

TRI is fully capable of performing all functions of clinical trials and clinical studies from planning through publication. It provides comprehensive and high quality support for clinical studies. For large-scale cohort studies, which are used to analyze prognostic risk factors based on clinical practice data, TRI has a system in place, as a data center and data analysis center, to ensure the proper and effective collection and management of data and performs high quality data accumulation.

Studies supported by TRI

The number of studies supported by TRI reached 348 at the end of FY2017, of which 150 studies are ongoing projects. These research outcomes were published as academic papers and were given preferential treatment under the Sakigake Designation Scheme introduced by MHLW.



TRI Clinical Trial Portal

The TRI Clinical Trial Portal is a website on which a list of research projects supported by TRI (clinical trials, clinical studies, and clinical investigations) is published. Visitors to the website can search and view individual research data including principal investigator, research project overview, study status, research outcomes, and related academic papers. Those who give application for support to TRI will be provided with a member-only website of the project which can be used as a tool to promote case registration and share information with other participating organizations.

http://ctportal.tri-kobe.org

Research Consultation

TRI has an integrated support system offered by a team of experts to develop product candidates and create value.

TRI offers a range of consultation services and support that contribute to medical advances from three perspectives: technical innovation, infrastructure development, and scientific creation. TRI leverages its know-how and expertise in a wide variety of fields including consultation services on development policies and patent strategies, clinical trial management – launch and operation of trials, and liaison with corporations and global clinical development.

Fields which we support

We provide academic researchers, and corporations with a wide variety of consultation services ranging from development strategies for new drugs and new medical devices including regenerative medicine to large-scale cohort studies.

Development strategy

1. Development policies
   - •Market analysis •Research on competing products
   - •Development schemes •Development stocks
2. Patent strategy
   - •Consultation •Patent investigation support
3. Preclinical
   - •Efficacy •Safety •Test material production
4. Collaborations with joint developers (liaison)
5. ARO framework construction support

Clinical trials

1. First-in-human study protocol development and regulatory relations
2. Clinical trial management - launch and operation of trials
3. Data management
4. Statistical analysis
5. System development (ex. EDC)
6. Global clinical trial support – planning, launch and operation
7. Monitoring and audit

Application for research consultation

TRI always welcomes research consultation. To apply research consultation, please contact us at: Tel: +81-78-306-1015 or Email: sodan@tri-kobe.org

http://www.tri-kobe.org/support/consultation.html

Support Details

Contributing to the demonstration of medical evidence through support for clinical trials and clinical studies

TRI provides its support in a wide range of fields from basic research, non-clinical trials, clinical trials through practical applications.
Making full use of its know-how acquired through its support to clinical trials and clinical studies, TRI proposes the optimal form of support according to an individual research design and forms a team of experts led by a project manager.
TRI creates maximum value under one roof, with a focus on speed, cost, and quality.

Basic research	Non-clinical trials	Clinical trials	Practical applications
■ Identify a theme. ■ Explore product candidates. ■ Investigate disease essences and explore a theory.	■ Verify quality, pharmacology, toxicity, and pharmacokinetics.	■ Verify quality, pharmacology, toxicity, and pharmacokinetics for humans. ■ Demonstrate evidence.	■ New drug applications ■ Post-marketing surveillance studies

Institute of Medical Research and Development

As a team of experts, TRI works with academic researchers to develop their product candidates all the way from clinical trials and clinical studies consultation through IND trials, aiming to pharmaceutical approvals, and global clinical development.

Medical development
Regulatory science, clinical operation, technical development, and medical writing
Project management
Monitoring

POINT

TRI reviews development strategies in reliance on its highly-specialized expertise and abundant development experience. We have new R&D know-how.

We offer strong support for clinical trials with our knowledge and expertise and development experience. This support includes medical opinions and advice for research projects, the promotion of pharmaceutical development operations including global clinical development, the formulation of clinical development strategies, and medical writing.

Institute of Health Data Science

A team of professionals specializing in biostatistics, system development, and data management provides support from protocol drafts through data analysis.

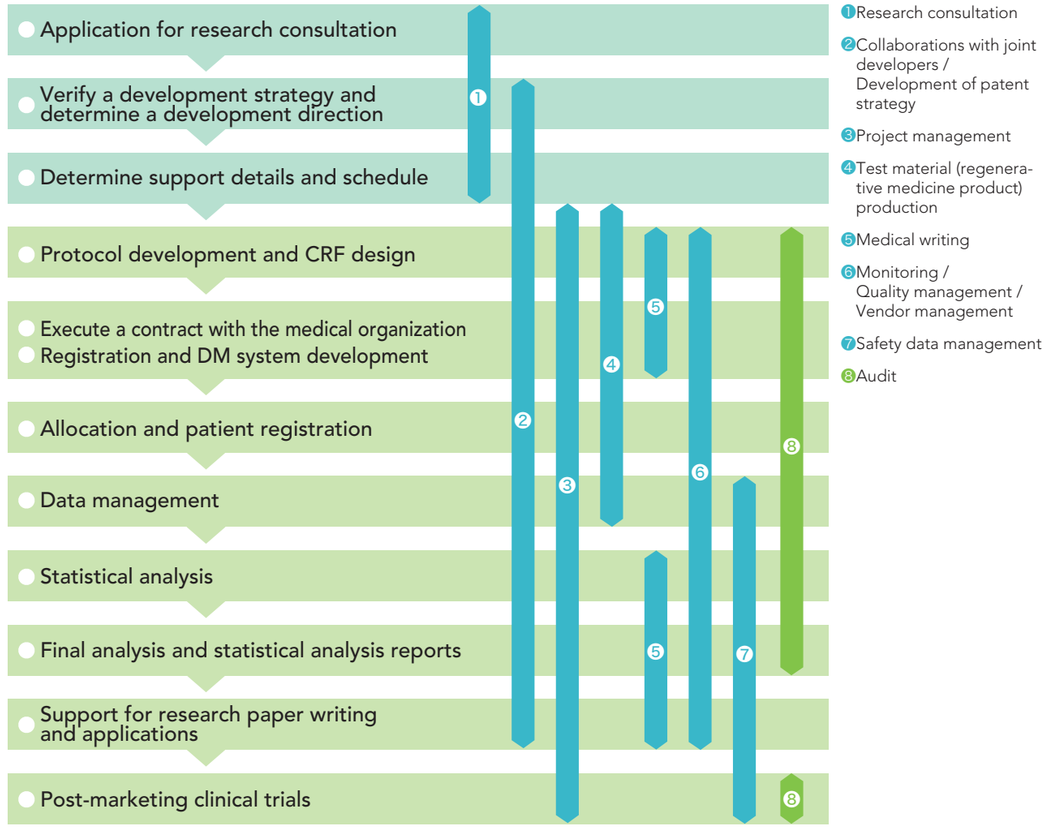
Biostatistics
System development
Data management

POINT

TRI manages and operates servers in several locations in Japan to enhance data security.

As an open data center for academia, TRI has provided support for a number of clinical trials and clinical studies since its foundation. TRI manages its data on servers in several different locations in Japan to prepare for any incident and ensure data security under any circumstance.

TRI offers speedy support for clinical trials, clinical studies, and investigator-initiated clinical investigations to help develop Japan-originated drugs, and for potential global clinical development.



eClinical Base, an extremely easy to use EDC system

The main feature of eClinical Base is that setting is completed by simply importing setting specifications in Microsoft Excel format, which define all the data collected by CRFs, into the system. It is extremely easy to set up clinical trials and CRFs can be changed very quickly. In addition to being equipped with the functions of patient registration, allocation, and exporting SAS data set, it is compliant with global clinical trials and CDISC standards using multilingual applications and related solutions. eClinical Base is compliant with Part 11, GCP, and ER/ES Guideline.

For more information on eClinical Base, please contact us at:
Tel: +81-78-306-1015 Fax: +81-78-306-1012 E-Mail: sodan@tri-kobe.org

eClinical Base

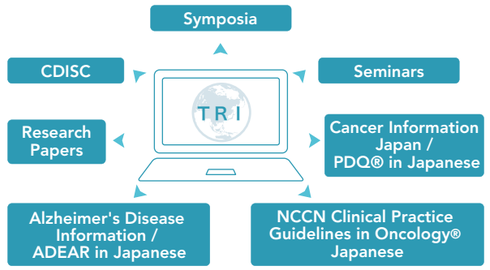
Three key areas of activity

3 Transmission of Information

Dissemination of medical and clinical research information

TRI provides doctors, researchers, and the public with medical and clinical research information.

TRI is committed to providing doctors and researchers with information they require for research implementation. We continuously make the latest information available to them on our website as well as on a wide range of media and through PR activities including seminars and symposia. TRI has also set up websites to keep the public up to date with the latest diagnostic and medical information.



PR activities

Symposia

TRI organizes a number of symposia for researchers and the public alike. The World Centenarian Initiative, which was launched to mark TRI's 10th anniversary, is an ongoing event to celebrate centenarians and create a lively society where people live to be 100 years old and beyond.
The World Centenarian Initiative focuses on a stroke, Alzheimer's disease, articular disorders, bone fracture, and loss of vision, which generally requires nursing care. It is an event organized with the aim of achieving TRI's mission to enhance therapeutic outcomes and improve prognoses of intractable disease.

http://www.tri-kobe.org/events/entry/

Translation and editorial supervision

MSD Manual

TRI is responsible for editorial supervision and Japanese translation of the MSD Manual, the world's best-selling medical dictionary known as the Merck Manual. TRI works closely with a number of experts in Japan to translate up-to-date and best medical information into Japanese. In preparing Japanese versions, TRI generally uses the medical terms officially adopted by academia in Japan and comply with their strict rules. To offer comprehensive and reliable information to a large number of people, TRI supervises the editing and translation of the MSD Manual for both medical professional version and the general consumer version.

http://www.msdmanuals.com/ja-jp/

Providing medical information

Cancer Information Japan / PDQ® in Japanese

Cancer Information Japan / PDQ® in Japanese is a Japanese version of Physician Data Query (PDQ®), the world's largest and up-to-date cancer database of the US National Cancer Institute, which is part of the National Institute of Health (NIH). This Japanese website provides high quality and up-to-date information available to the general public and medical professionals alike.

http://cancerinfo.tri-kobe.org

NCCN Clinical Practice Guidelines in Oncology® Japanese

The NCCN Clinical Practice Guidelines in Oncology® Japanese is a Japanese version of the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®), the world's most-used guidelines for cancer treatment. Under the agreement with the National Comprehensive Cancer Network (NCCN), TRI publishes the Japanese version with supplementary comments from academic societies.

http://www.tri-kobe.org/nccn/

Alzheimer's Disease Information / ADEAR in Japanese

Alzheimer's Disease Information / ADEAR in Japanese is a website that provides Japanese translations of up-to-date and comprehensive information on Alzheimer's disease distributed by the Alzheimer's Disease Education and Referral Center (ADEAR), which is part of the NIH.

http://adinfo.tri-kobe.org/

TRI ADVANCES

Japan's innovative medical technology and research outcomes are disseminated both at home and abroad on the TRI ADVANCES website. On this website, cutting-edge medical breakthroughs made in the clinical investigations and clinical trials supported by TRI that are ready for imminent practical applications are published via Springer Nature's media. Information and reports on TRI's latest events held both domestically and internationally are also provided on this website.

http://advances.tri-kobe.org/

Orphanet Japan

TRI translates information on intractable and rare diseases provided by the Orphanet, the international consortium of rare diseases, into Japanese and makes the information available on the Orphanet Japan website. This is part of the Practical Research Project for Rare / Intractable Disease commissioned by AMED. TRI joined the Orphanet consortium as a national team in October 2017.

http://www.orphanet.jp

Application for donations and support

Our medical information websites are operated with your generous donations and support. If you are interested in assisting us in providing up-to-date diagnostic and medical information, please contact: In charge of Donations and Support, Translational Research Center for Medical Innovation, Foundation for Biomedical Research and Innovation at Kobe Tel: +81-78-303-9095 Fax: +81-78-306-1012

History

October 2002	The Translational Research Informatics Center (currently known as the Translational Research Center for Medical Innovation (TRI)) was established as a sister research department of the Institute of Biomedical Research and Innovation. TRI engaged in the Translational Research Infrastructure Construction Program commissioned by MEXT and began its operations in an office of the Kobe Chamber of Commerce and Industry (KCCI) building.
June 2003	The construction of the current TRI Building was completed. Operations were officially launched as TRI's Clinical Trial Operations Department on the 4th floor of TRI Building.
August 2004	Engaged in the Research Promotion for Innovative Therapies against Cancer commissioned by MEXT.
April 2005	TRI's Clinical Trial Operations Department was renamed the TRI Research Project.
August 2007	Engaged in the Coordination, Support and Training Program for Translational Research commissioned by MEXT and began providing support to TR centers throughout Japan.
April 2012	Engaged in the Translational Research Network Program commissioned by MEXT.
June 2012	Adopted the Japan-Initiated Global Clinical Trials Development Project commissioned by MHLW.
February 2013	Engaged in the Program for Management of Research and Development commissioned by MHLW.
April 2014	Engaged in the Project of Translational and Clinical Research Core Centers.
May 2017	Engaged in research utilization support for the Translational Research program; Strategic PRomotion for practical application of INnovative medical Technology (TR-SPRINT)
April 2018	The Translational Research Informatics Center was renamed the Translational Research Center for Medical Innovation.

TRI Next One
Lead to Next innovation.

"Next One" is the concept embraced by TRI.
With this concept in mind, TRI integrates all of its past efforts into one and leads the way in taking a step forward in the development of the future of medicine. TRI seeks to strengthen Japan's medical excellence.

We are working hard to strive for Japan's medical excellence and to deliver many research outcomes to clinical practice.

We focus on academic product candidates to realize a society where people live to be 100 years old and beyond.
We will be with you every step of the way. That's our promise.