Outline of the Comprehensive Collaboration Agreement between Osaka University and Chugai Pharmaceutical Co., Ltd.

Executive Vice President of Research and Risk Management, Osaka University

Yasushi Yagi
Pioneering University-Industry “Co-creation” at Osaka University

The 3rd stage of university-industry collaboration

A new type of university-industry collaboration, at Osaka University

Approach 1
Comprehensive collaboration from the stage of basic research

Approach 2
Nurturing innovative researchers through university-industry collaboration

Organization-wide development of joint research based on promising novel ideas originating at the university

Joint research chairs established ... 32
Research Alliance Laboratories established ... 10
(Endowed Chairs established... 46)

First in Japan

As of 1. April, 2016

1st stage
Technical consultation/individual collaboration

2nd stage

University-Industry Co-creation
Introduction of a new Framework for University-Industry Collaboration at Osaka University

Comprehensive university-industry collaboration from the basic research stage

Endowment

Comprehensive collaboration

Joint research, commissioned/contract research with private enterprise

Disclosure of research achievements

Development toward new joint research

Utilization of intellectual property
World Premier International Research Center (WPI) Initiative

Nine centers established in Japan. IFReC established as an international center for immunology research.

4 objectives

Science
Advancing leading-edge research

Globalization
Establishing international research environments

Fusion
Creation interdisciplinary domains

Reform
Reform of research institutions

Immunology Frontier Research Center (IFReC), Osaka University

IFReC is a world-leading research institute headed by Dr. Shizuo Akira, one of the most prominent immunologists today. The center leads global immunology research with its 180 researchers including Dr. Shimon Sakaguchi, well-known for his discovery of regulatory T cells.

The WPI program will transition to a new stage for support from fiscal 2017.
Pioneering University-Industry “Co-creation” at Osaka University

Support from Osaka University
Support from MEXT
(Competitive) External research funding

Basic research
Applied research

Research based on promising ideas

Individual collaboration

Company A

Company B

Company C

Conventional university-industry cooperation

IFReC researchers

Basic research
University-Industry “Co-creation” from Basic Research at IFReC to Applied Research

Basic research

Applied research

Research based on promising ideas

Individual collaboration

Company A

Individual collaboration

Company B

Right of first refusal

Individual collaboration

Chugai Pharma

Individual collaboration

Chugai Pharma

Disclosure of research outcomes

Seamless university-industry cooperation toward applied research

Chugai Pharmaceutical

Support from Osaka University

Support from MEXT

(Competitive) External research funding

Promotion of basic research with generous funding

Comprehensive collaboration from the stage of basic research

University-Industry Co-Creation
Outline of Comprehensive Collaboration with IFReC

CHUGAI PHARMACEUTICAL CO., LTD.
Executive Vice President
Yutaka Tanaka

May 19, 2016
Global Trends in the R&D of Pharmaceutical & Medical Technology

Elucidation of Disease Mechanisms
- Gene Analysis
- Gene Expression Analysis
- Protein Expression Analysis
- Disease State Information
- Clinical Trial & Treatment Information
- Fast Omics Analysis
- Next Generation Sequencer
- Application of ICT Medical Information
- Discovery of Disease-causing (Target) molecules

Sophistication of Pharmaceutical & Medical Technology
- Biopharmaceutical
  Antibody Technology, High-functionalization, Evolution of Manufacturing Tech.
- Small molecule drug
  Large-scale Screening, Computing Drug Discovery
- Regenerative Medicine etc.
  New Technology (iPS cell, Somatic Stem Cell)
- Diagnostic & Medical Devices
  Biomarker, Personalized Medicine

- Innovative New Drugs
- Innovative Medical Technology
Chugai’s Strategy for Drug Discovery
~Technology-driven Approach~

Disease-causing Molecule

Selection of proper Drug Discovery Target

Development of Innovative Drug Discovery Technology

Matching of Technology & Target

Solution for Unmet Medical Needs

Next-generation (high functionalized) Antibodies

Small molecule Drugs

Middle molecule Drugs

Academia

Joint Research

Research network

Satellite Lab.

Antibody mw: 150,000

Small Molecule
Alectinib, mw: 482

Middle Molecule
Cyclic Peptide, mw: ~1,000~
Value from the Collaboration of IFReC & Chugai
~ Innovation created by the fusion of IFReC’s cutting-edge Immunology research and Chugai’s Drug Discovery Technology ~

IFReC

Great Source of Drug Discovery Seeds with the world’s most advanced Immunology, Bioimaging & Bioinformatics Resources

Chugai

Drug Discovery Approach driven by Innovative Technology capable of applying Various Drug Discovery Targets

- Understand the mechanism of Immune Disease
- Identify Innovative new Target Molecule

Lead the Global Immunology Community
Create Innovative New Drugs
Framework of IFReC-Chugai Comprehensive Collaboration

~New academia-industry alliance collaborating from the stage of autonomous basic research at IFReC~

IFReC Autonomous Research
- Uncontrolled Cutting-edge Immunology Research by IFReC Researchers
- Periodical Disclosure of Autonomous Research Results* to Chugai

Contribution for Research fund
1 bn. yen/yr. x 10 years

Disclosure of Research Results
1st refusal right for Joint research

*: Excluding ongoing collaboration projects with 3rd Parties

Comprehensive Collaboration Agreement

Joint Research
- Collaboration Lab: Interaction of Researchers, Conducting Joint Research

Specific Joint Research Agreement

Chugai Project
- Goal: A number of Creative Innovative Projects

Innovative New Drugs

Contributions:
- Research fund: 1 bn. yen/yr. x 10 years
- 1st refusal right for Joint research

Agreements:
- Comprehensive Collaboration Agreement
- Specific Joint Research Agreement

Projects:
- Collaboration Lab: Interaction of Researchers, Conducting Joint Research
- Goal: A number of Creative Innovative Projects

Outcome:
- Innovative New Drugs