

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

University-Industry
Co-creation

Approach

Comprehensive collaboration from the stage of basic research

Approach

2

Nurturing innovative researchers through universityindustry collaboration

2nd stage

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)

As of 1. April, 2016

1st stage

Technical consultation/ individual collaboration

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



WPI Osaka University FREC

Immunology Frontier Research Center (IFReC), Osaka University

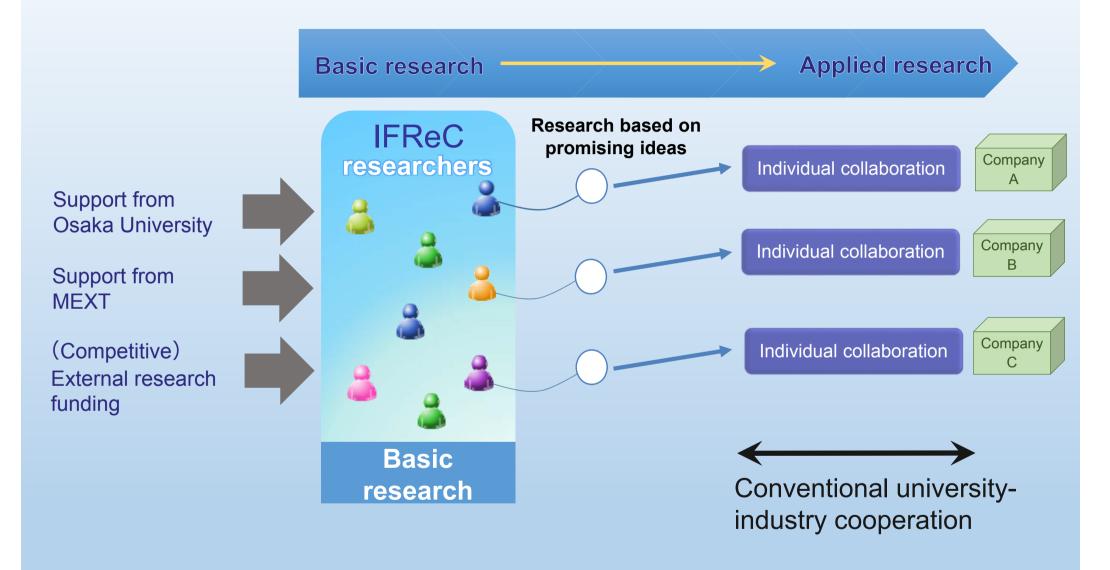
IFReC is a world-leading research institute headed by Dr. Shizuo Akira, one of the most prominent immunologists today. The center leads global immunology research with its 180 researchers including Dr. Shimon Sakaguchi, well-known for his discovery of regulatory T cells.

The WPI program will transition to a new stage for support from fiscal 2017.

Pioneering University- Industry "Co-creation" at Osaka University

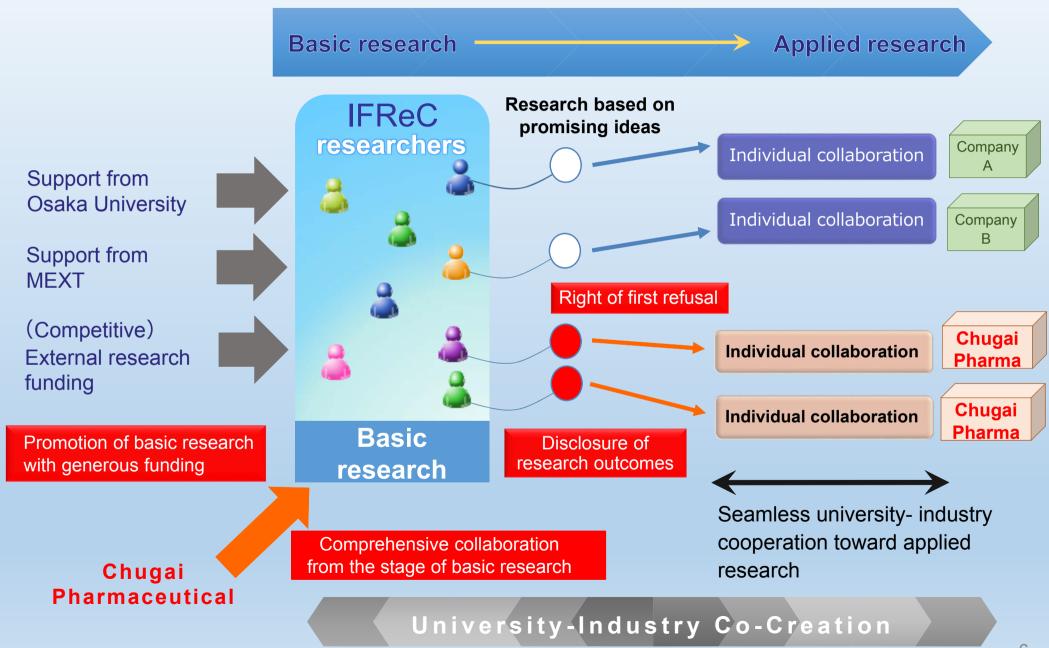






University- Industry "Co-creation" from Basic Research at IFReC to Applied Research







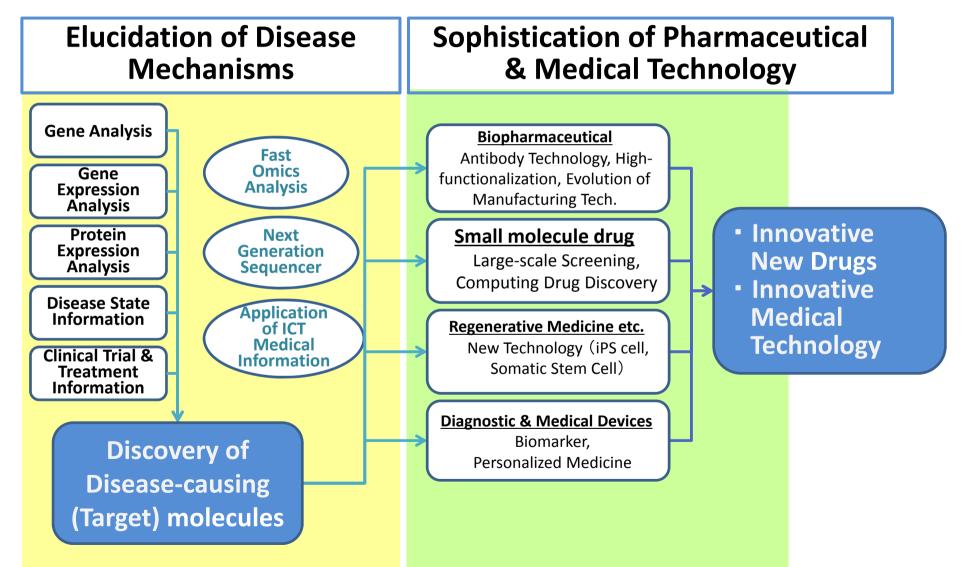
Outline of Comprehensive Collaboration with IFReC

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

May 19, 2016

Global Trends in the R&D of Pharmaceutical & Medical Technology





Chugai's Strategy for Drug Discovery

CHUGAI

~Technology-driven Approach~

Diseasecausing Molecule

Selection of proper Drug Discovery **Target**

Development of Innovative Drug Discovery **Technology**

Next-generation (high functionalized) Antibodies

Small molecule Drugs

Middle molecule Drugs

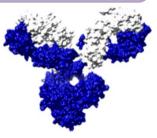
Academia Research network **Joint** Satellite

Lab.

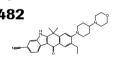
Research

Matching of Technology & Target

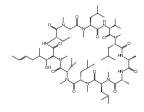
Antibody mw: 150.000



Small Molecule Alectinib, mw: 482



Middle Molecule Cyclic Peptide, mw: ~1,000~



Solution for Unmet Medical Needs

Value from the Collaboration of IFReC & Chugai

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 &
Bioinfomatics 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∼

Roche A member of the Roche group

IFReC Autonomous Research

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

Comprehensive Collaboration Agreement

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

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