

JSPS Core-to-Core Program
FY2014 Implementation Plan (Project No. : 22002)

Research Theme Cooperative international framework in TGF- β family signaling

Duration of Project April 1st, 2012 - March 31st, 2015 (36 months)

Core Institution in Japan (Co-Chair) The University of Tokyo, Graduate School of Medicine
(Kohei Miyazono)

Implementing Organizations

○ **Japan**

Japan	Core Institution	The University of Tokyo, Graduate School of Medicine	
	Co-Chair (name and title)	Kohei Miyazono (Professor)	
	Cooperating Institutions	University of Tsukuba Yamanashi University University of Toyama Showa Pharmaceutical University Ehime University Tokyo University of Pharmacy and Life Sciences	Number of Cooperating Institutions
			6

○ **Partner Countries**

Sweden	Core Institution	Uppsala University, Ludwig Cancer Institute	
	Co-Chair (name and title)	Carl-Henrik Heldin (Director)	
	Cooperating Institutions	Karolinska Institute Umeå University Lund University The University of Gothenburg	Number of Cooperating Institutions
			4

Netherlands	Core Institution	Leiden University Medical Center	
	Co-Chair (name and title)	Peter ten Dijke, Professor	
	Cooperating Institutions		Number of Cooperating Institutions
			0

Objectives of Research Exchange (including the five years after the project finishes)

TGF- β family signals play important roles in various physiological and pathological situations. Researchers involved in this international framework (Dr. Miyazono at University of Tokyo in Japan, Dr. Heldin at Uppsala University in Sweden, and Dr. ten Dijke at Leiden University in the Netherlands) have been collaborating on TGF- β signals since 1993, and have made significant progress in basic and clinical aspects. In this program, we attempt to have these communications closer via collaborative research projects and joint meetings, and stimulate the exchange of young researchers of the institutes of this framework in order to build strong strategic research networks with highly motivated young researchers.

During the five years after the project finishes, we will expand this international framework in TGF- β family signals towards other countries in Asia, Europe and the United States.

Results to the present

During the two years when we were engaged in “Strategic Research Networks” stage of JSPS core-to-core program, we exchanged number of senior and young researchers between Japan and Sweden/Netherlands in order to conduct the collaborative research projects. Through these collaborations, we published number of papers on TGF- β family signals. We also sent many young graduate students to the international “TGF- β meetings” in the Netherlands (2012) and Sweden (2013). Furthermore, thanks to the support of this program, we held two international symposia on TGF- β family (the 2nd International Symposium by JSPS Core-to-Core Program "Cooperative International Framework in TGF- β Family Signaling" in 2012, Tokyo and the 3rd in 2013, Ehime). Through these four international meetings young scientists were able to present their works and communicate with foreign scientists. In summary, this program implementation strengthened the cooperative international framework in TGF- β family signaling.

Summary of FY 2014 Exchange Plan

Joint Research

(1) Collaborative research projects

The following collaborative research projects will be conducted:

1. ALK-1 in endothelial cells and stem cells: Uppsala University, Karolinska Institute, Leiden University and the University of Tokyo
2. Elucidation of TGF- β -induced transcriptional regulation by ChIP-sequencing: Uppsala University and the University of Tokyo
3. In vivo imaging of TGF- β family signaling: Uppsala University, Leiden University and the University of Tokyo
4. Development of novel therapeutic strategies targeting TGF- β family signals as regulators of tumor

Seminar

The following seminars will be held in FY2014:

1. TGF- β Meeting (May 8th-10th, 2014) Leiden, the Netherlands
2. The 4th International Symposium by JSPS Core-to-Core Program "Cooperative International Framework in TGF- β Family Signaling" (Jan, 12th-14th, 2015) Ibaraki, Japan

Researcher Exchanges

Participants of this program will attend at an international meeting held in Germany (BMP Berlin 2014) to present their works and collect international information in the research field