

Research projects in the Targeted Proteins Research Program

The Targeted Proteins Research Program

field	division	research subject	principal investigator	representative organization
Investigations of fundamental biological phenomena	Research project A	Structural and functional studies of bacterial type and type protein export systems	Katsumi Imada	Graduate School of Frontier Biosciences, Osaka University
		Structural basis for dynamic formation and mechanistic actions of huge and complicated proteolytic machinery	Keiji Tanaka	The Tokyo Metropolitan Institute of Medical Science, Tokyo Metropolitan Organization for Medical Research
		Structural basis of Atg proteins essential for autophagy	Fuyuhiko Inagaki	Graduate School of Pharmaceutical Sciences, Hokkaido University
		Structural biology of transcription factors and histone modification factors	Yoshifumi Nishimura	International Graduate School of Arts and Sciences, Yokohama City University
		Structure and function of voltage-sensor domain proteins	Yasushi Okamura	Graduate School of Medicine, Osaka University
		Structure-function analysis of protein complexes that regulate vesicular traffic	Soichi Wakatsuki	Institute of Materials Structure Science, High Energy Accelerator Research Organization (KEK)
		Structural studies of the cell-cell junctional proteins	Toshiaki Sakisaka	Graduate School of Medicine, Kobe University
	Research project B	Structural Basis of Sensor System for Cytoprotective Gene Expression Responding to Carcinogens and Oxidative Stress	Masayuki Yamamoto	Graduate School of Medicine, Tohoku University
		Solid-state NMR investigation on functional and irregular structures of H ⁺ ATPsynthase Fo	Hideo Akutsu	Institute for Protein Research, Osaka University
		3D structural and functional analyses for elucidation of the mechanism of mitochondrial respiration.	Shinya Yoshikawa	Graduate School of Life Science, University of Hyogo
		Towards structure-based design of novel inhibitors for V ATPase	So Iwata	Graduate School of Medicine, Kyoto University
		Elucidation of the mechanism of high-order cellular functions achieved by non-coding RNAs	Osamu Nureki	Institute of Medical Science, The University of Tokyo

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Contribution to medical and pharmaceutical sciences	Research project A	Structural analysis of molecules related to the innate immune system	Shizuo Akira	Immunology Frontier Research Center, Osaka University
		Drug discovery-oriented analysis for structure and function of DOCK2 signaling molecules	Yoshinori Fukui	Medical Institute of Bioregulation, Kyushu University
		Study on reactive oxygen-producing systems involved in neural cell death and structure-based discovery of their inhibitors	Hideki Sumimoto	Medical Institute of Bioregulation, Kyushu University
		Structural analysis of γ -secretase complex for the development of the treatment for Alzheimer's disease	Taisuke Tomita	Graduate School of Pharmaceutical Sciences, The University of Tokyo
		Development of anti-trypanosome drugs targeting nucleic acids and red-ox regulatory pathway	Kiyoshi Kita	Graduate School of Medical Science, The University of Tokyo
		Structure-based functional analyses and development of drug intervention in metabolic syndrome and diabetes- AdipoR/AMPK/ACC as key targets	Takashi Kadowaki	Graduate School of Medical Science, The University of Tokyo
	Research project B	Structural and Functional Analysis of a Molecular Target FROUNT for Drug Discovery	Koji Matsushima	Graduate School of Medical Science, The University of Tokyo
		Development of new compounds for fibrosis therapy	Junn Yanagisawa	Graduate School of Life and Environmental Sciences, University of Tsukuba
		Structure and drug development of NPP family members involved in cancer and various diseases	Jiyunken Aoki	Graduate School of Pharmaceutical Sciences, Tohoku University
		Structural and functional analysis of semaphorins and their receptors.	Atsushi Kumanogoh	Research Institute for Microbial Diseases, Osaka University

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Industrial applications including food and environment	Research project A	Structural and functional analyses of signaling proteins for insect control	Koji Nagata	Graduate School of Agricultural and Life Sciences, The University of Tokyo
		Structure-based functional analysis of key enzymes that can be applied to production of antibiotics and other useful compounds	Sueharu Horinouchi	Graduate School of Agricultural and Life Sciences, The University of Tokyo
		Structural and functional analyses of transcriptional regulatory proteins useful for breeding of drought and heat stress tolerant crops	Masaru Tanokura	Graduate School of Agricultural and Life Sciences, The University of Tokyo
		Structural and functional analyses of regulatory proteins in plant growth and stress resistance, that is useful for improvement of the stress-resistant crop	Makoto Matsuoka	Bioscience and Biotechnology Center, Nagoya University
		Structural biology on efflux transport machineries to understand multi-drug resistance	Satoshi Murakami	Graduate School of Bioscience and Biotechnology, , Tokyo Institute of Technology
	Research project B	Structural and functional analyses of the rodent ESP family	Hiroaki Terasawa	Faculty of Medical and Pharmaceutical Sciences, Kumamoto University
		Structural and functional analysis of taste receptors applicable to development of new taste substances and taste evaluation systems	Atsuko Yamashita	Structural Physiology Research Group, Harima Institute, RIKEN
		Structural biology of bacterial super-biosystem for import and degradation of polysaccharides and its application to food and environmental areas	Wataru Hashimoto	Graduate School of Agriculture, Kyoto University
		Structural and Functional Analyses of Enzymes involved in a New Carbon Dioxide Fixation System and Their Functional Improvement	Kunio Miki	Graduate School of Science, Kyoto University
		Structure-function analyses and improvement of useful enzymes for chiral compound production	Sakayu Shimizu	Graduate School of Agriculture, Kyoto University
		Structure and function of environmentally-responsive proteins	Ko Shimamoto	Graduate School of Biological Sciences, Nara Institute of Science and Technology

Research and technological development

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Protein production technology	Research project C	Development of Advanced Production Technologies for Target Proteins	Shigeyuki Yokoyama	Systems and Structural Biology Center, Yokohama Institute, RIKEN
Protein structural analysis technology		Development of the synchrotron beamlines dedicated to the measurement of micron-size protein crystals	Soichi Wakatsuki	Institute of Materials Structure Science, High Energy Accelerator Research Organization (KEK)
Protein regulation technology		Establishment of Chemical Library and Development of Protein Regulation Technology	Tetsuo Nagano	Graduate School of Pharmaceutical Sciences, The University of Tokyo
Information Platform		Creation and management of information platform in Targeted Proteins Research Program	Hideaki Sugawara	National Institute of Genetics, Research Organization of Information and Systems
Protein production technology	Research project D	Development of novel affinity tag system for the high-quality production of extracellular and membrane proteins.	Junichi Takagi	Institute for Protein Research, Osaka University
		Development of innovative methods to support membrane protein crystallization	Hiroaki Kato	Graduate School of Pharmaceutical Sciences, Kyoto University
		Antibody production for Membrane Protein Crystallisation	So Iwata	Graduate School of Medicine, Kyoto University
Protein structural analysis technology		Structural Analysis of Membrane Protein Complexes by Solid-State NMR	Toshimichi Fujiwara	Institute for Protein Research, Osaka University
		Diversification of protein structural analysis technologies by the SAIL method	Masatsune Kainosho	Graduate School of Science, Nagoya University
Information Platform		Structural Bioinformatics for Modeling Protein Complex Structures	Kei Yura	Graduate School of Humanities and Sciences, Ochanomizu University