

Research and Development themes and projects for Drug Discovery and Medical Technology

The Drug Discovery and Medical Technology platforms aim to deliver innovative drugs and medical technologies to patients with unmet medical needs and/or possessing rare disease currently, we are conducting research and development with the highest priority given to the order of the themes and projects shown in the table below.

- The stages are divided into three components, S (seed) stage, L (lead) stage, and P (clinical) stage, where each stage is further subdivided into S0 to S3, L1 to L3, and P0 to P3.
- Project (L3 to P3): Advance candidate compounds, antibodies, or technology to non-clinical and clinical development under the direction of a project leader.
- Theme (S0 to L2): Promote selection of drug candidates or antibodies, and develop or improve technology in cooperation with theme leaders and portfolio managers.
- The abbreviations for modality are:
AB: Antibody; BT: Basic Technology; CT/RM: Cell Therapy or Regenerative Medicine; GT: Gene therapy; MD: Medical Device; SM: Small Molecule.

Oncology area

Theme/Project	Theme/Project Leader	Modality	Project (L3 to P3)/ Theme (S0 to L2)
Artificial adjuvant vector cells I (WT1)	Shin-ichiro Fujii	CT/RM	Project
Cancer treatment by iPS NKT Cell	Akihiko Koseki	CT/RM	Project
Development of tankyrase inhibitors	Hiroyuki Seimiya	SM	Project
Artificial adjuvant vector cells II (HPV)	Shin-ichiro Fujii	CT/RM	Project
Development of lysine-specific demethylase 1 (LSD1) inhibitors for the treatment of refractory cancer	Takashi Umehara	SM	Theme
Allosteric Ras signaling inhibitor	Fumi Shima	SM	Theme
Anti-cancer drugs targeting SIRT2	Akihiro Ito	SM	Theme

Development of anticancer drug based on inhibition of ubiquitination	Takehiko Kamijo	SM	Theme
Unfolded protein response for the development of new anti-cancer drugs	Kazutoshi Mori	SM	Theme
New anticancer drug for rRNA methylation inhibitor	Seiichi Oyadomari	SM	Theme
Development of anti-cancer drug targeting histone acetyltransferase	Kosuke Yusa Hironori Harada	SM	Theme
Development of new anticancer drug targeting diffuse type gastric cancer	Hiroki Sasaki	SM	Theme

Infectious disease area

Theme/Project	Theme/Project Leader	Modality	Project (L3 to P3)/ Theme (S0 to L2)
Artificial adjuvant vector cells III (SARS-CoV-2)	Shin-ichiro Fujii	CT/RM	Project
Antifungal drug	Minoru Yoshida	SM	Theme
Antibody drug development to prevent SARS-CoV-2 infection	Takashi Saito	AB	Theme
Drug development against pan-RNA viruses	Kenji Ogawa	SM	Theme
Drug discovery of SARS-CoV-2 protease inhibitors	Kenji Ogawa	SM	Theme

Ophthalmology area

Theme/Project	Theme/Project Leader	Modality	Project (L3 to P3)/ Theme (S0 to L2)
Gene therapy for retinitis pigmentosa	Akishi Onishi	GT	Theme
Regenerative medicine for retinal degenerative disease	Michiko Mandai	CT/RM	Theme

Psychiatric / neurological disease area

Theme/Project	Theme/Project Leader	Modality	Project (L3 to P3)/ Theme (S0 to L2)
Development of novel therapeutic agents for mood disorders targeting mitochondrial permeability transition pore (mPTP)	Mie Kubota-Sakashita	SM	Theme
Development of drug for Alzheimer's disease targeting a new mechanism	Teijiro Aso	SM	Theme
Antibody drug for multiple sclerosis	Takashi Saito	AB	Theme

Congenital disease area

Theme/Project	Theme/Project Leader	Modality	Project (L3 to P3)/ Theme (S0 to L2)
Development of G9a inhibitors for treatment of hemoglobinopathy (SCD)	Akihiro Ito	SM	Project
Development of a drug for Fabry disease targeting a suppression of globotriaosylceramide (Gb3) accumulation	Hiroki Kobayashi	SM	Theme
Drug for congenital aplastic anemia	Takashi Hiroyama	SM	Theme
Drug for Diamond-Blackfan anemia	Takashi Hiroyama	SM	Theme
Development of drugs for improving mitochondrial respiratory function	Hiroki Kobayashi	SM	Theme

Gastrointestinal disease area

Theme/Project	Theme/Project Leader	Modality	Project (L3 to P3)/ Theme (S0 to L2)
Antibody drug for hepatitis B	Daiki Miki	AB	Theme
Drug development for hepatitis B	Kenji Ogawa	SM	Theme

Immune / allergic disease area

Theme/Project	Theme/Project Leader	Modality	Project (L3 to P3)/ Theme (S0 to L2)
Drug for atopic dermatitis	Tomohiro Miyai	SM	Theme

Other area

Theme/Project	Theme/Project Leader	Modality	Project (L3 to P3)/ Theme (S0 to L2)
Next-generation implant	Takashi Tsuji	MD	Project
Establishment of a heart-on-a-chip microdevice based on human iPS Cells	Hidetoshi Masumoto	BT	Theme

As of April 1, 2022