Dr. Inoue’s team conducts research into amyotrophic lateral sclerosis (ALS), a neurodegenerative disease for which there is no effective cure. They aim to develop new therapeutic drugs using patient-derived iPSCs and Takeda’s compound libraries. The team is also focusing on research into autism spectrum disorder (ASD), a psychiatric disorder. The team aims to develop novel and effective therapeutic options for ASD for which no cure is available.

**Strategy for ALS Drug Discovery**

Day 0

ALS patient-derived iPSC

iPSC plating to 384w plate

Differentiation

Generation of motor neurons on well

Day 6

Day 14

Compounds

Neuronal cell death

Neuroprotection

Imaging

The assay platform was established in CiRA, Kyoto University and introduced to T-CiRA joint program.

**Progress**

Dr. Inoue’s team conducted high-content and high-throughput screening of Takeda compounds with motor neurons differentiated from patient-derived iPS cells. The team identified "new drug candidates" which are effective against motor neuron loss of patient iPSC-derived neurons.