Modeling HSP using induced pluripotent stem cells

We aim to investigate neuronal pathology in cell-based neuronal human models from hereditary spastic paraplegia (HSP) patients. We have generated human induced pluripotent stem cells from SPG4 and SPG11 patients and started to differentiate them into neurons. We are still improving the experimental variation across neural cell lines. We aim to produce specific types and greater quantities of neural cells. The goal is to identify specific neural defects and understand disease-relevant mechanisms (specifically axonal pathology) in HSP neurons in vitro. Currently, no curative therapies are available hereditary spastic paraplegia (HSP). We aim to identify therapeutic targets for treating these diseases more effectively.

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