Leber hereditary optic neuropathy

Leber's hereditary optic neuropathy (LHON) is a maternally inherited mitochondrial disease caused by homoplasmic point mutations in complex I subunit genes of mitochondrial DNA. In this report, we generated an induced pluripotent stem cell (iPSCs) line, TVGH-iPSC-010-09, from the peripheral blood mononuclear cells of a female patient with Leber's hereditary optic neuropathy (LHON) by using the Sendai-virus delivery system. The resulting iPSCs retained the disease-causing mitochondrial DNA mutation, expressed pluripotent markers and could differentiate into the three germ layers. We believe LHON patient-specific iPSCs provide a powerful in vitro model for evaluating the pathological phenotypes of the disease [1)].

1)
Lu HE, Yang YP, Chen YT, Wu YR, Wang CL, Tsai FT, Hwang DK, Lin TC, Chen SJ, Wang AG, Hsieh PCH, Chiou SH. Generation of patient-specific induced pluripotent stem cells from Leber's hereditary optic neuropathy. Stem Cell Res. 2018 Jan 31;28:56-60. doi: 10.1016/j.scr.2018.01.029. [Epub ahead of print] PubMed PMID: 29427840.