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## **Leber's Hereditary Optic Neuropathy (LHON): Optimisation of *MT-ND4* Cell Model**

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**ABSTRACT** Leber's Hereditary Optic Neuropathy (LHON) is a maternally inherited optic neuropathy that leads to vision loss. Three primary mitochondrial DNA mutations (*MT-ND1*, *MT-ND4* and *MT-ND6*) are the main cause of the disease, which affects the function of respiratory complex 1 of oxidative phosphorylation. As yet there is no proper treatment for this disease and many studies are going on to find a solution for this condition. In this paper, the researchers discussed the basic cell culture method for LHON ND4 mutant fibroblast cell maintenance for basic research. Cell viability and morphology analysis followed by proper cell maintenance using appropriate media and conditions helped to attain the confluency of cells in each passage. Confluent cells were cryopreserved for long-term storage for further experiments and assays.