McGill University - Imperial College London Student Exchange

Training opportunity within the Kania Laboratory at the Institut de recherches cliniques de Montreal

Background

During embryogenesis, spinal motor neurons are born in excess and approximately half of them die an apoptotic death. In mice lacking the LMX1b gene, in which the limb extensor muscles are absent and flexors are duplicated, there is a more severe loss of motoneurons that innervate extensors following apoptosis. In contrast, the number of flexor-innervating neurons remains the same as in controls. This leads to the question: what is the pattern of flexor muscle innervation in the LMX1b mutant limb?

Opportunity

By staining limbs from WT and LMX1b null mice for aBTX, a marker of the neuromuscular junction, and myosin, a marker of muscle fibers, the student will be able to assess differences in density of innervation of muscle fibers, gaining insights into the targeting and branching of motoneurons into the ectopic flexor tissue.

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