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#P10028 - The Use of Cryopreserved Primary Neurons in High Content Screening Assays

P10 - Advances in Bioassay Technologies - Poster Session

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The use of cryopreserved, primary neurons was evaluated in High Content Screening (HCS) neurite outgrowth assays. Cryopreserved rat cortical and striatal neurons obtained from QBM Cell Science, were thawed and grown according to recommended procedures, immunofluorescently labeled using an antibody towards a neuron-specific protein, automatically imaged by an HCS imaging platform and quantitatively analyzed for different measurements of neurite outgrowth including neurite length, and neurite branch and cross point numbers. Standard looking fluorescently-labeled neurons were obtained enabling visualization and quantitation of neuronal cell bodies and associated neurites. Over a seven day period, the neurons developed a neurite network that increased in number, length and number of cross points. Cortical cells exhibited higher neurite outgrowth metrics versus striatal cells. The availability of functional, cryopreserved primary neurons in a ready-to-use, reproducible form in combination with automated, quantitative HCS assays makes these cells a valuable tool for CNS research and drug discovery efforts.

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