

Experimental thesis project in Neurobiology Dr. Antonella Ragnini-Wilson (PhD).

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Laboratory location: Department of Biology, building PP1, II floor School of Pharmacy,

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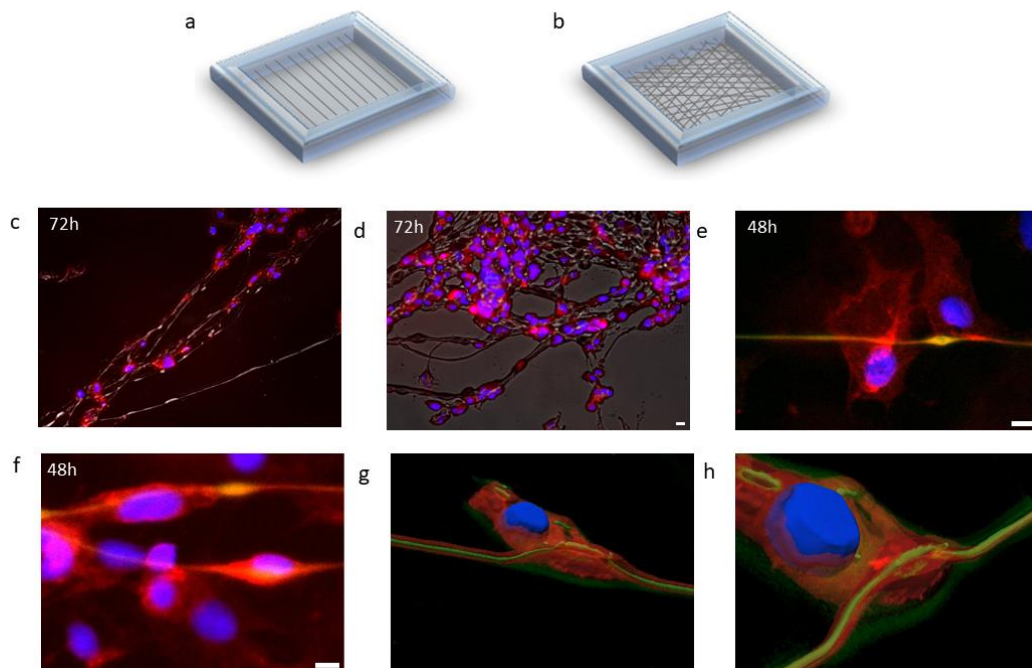


Figure 1. Fluorescence images of Oli-neuM oligodendroglia cells engaging synthetic axons. (a-b): Growth chambers with a) aligned; b) random PS microfibers, used to culture Oli-neuM oligodendroglia cells in 3D environment (Del Giovane et al., *Front Cell Neurosci.* 2022). (c-f) fluorescence and BF merged images of Oli-neuM grown in PS containing Chambers (red =MBP; Blue =DAPI, Black= PS fibers); g-h. Confocal merged image of an Oli-neuM cell expressing MBP engaging a PS Fiber (red =MBP; Blue =DAPI, green= PS fibers); (Nocita et al., *Cells* 2019, Del Giovane et al., 2022)

We are seeking an highly motivated student to undertake a laboratory experimental study for Master Thesis (LM in Molecular, Cellular and Biomedical Science, LM in Biotechnology)

starting from September 2022.

Project Title: Study of the mechanism of action drugs promoting remyelination in cellular models.

Remyelination is the natural process that restores myelin of damaged axons. Myelin can be disrupted during life as consequence of injury, viral infection or disease progression. Remyelination can restore saltatory current and thereby neuronal function. Unfortunately, in several disease adult CNS remyelination is incomplete and it declines during aging. Pharmacological intervention can be used to restore the ability of neural stem cells to mature into myelinating OLs (Balestri et al., 2021). Understanding of how remyelination occurs in adult CNS in normal and pathological conditions will open new avenues on the possibility to treat neurodegenerative disease among which Multiple Sclerosis, Amyotrophic Lateral Sclerosis, Alzheimer, Parkinson and aging related dementia.

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