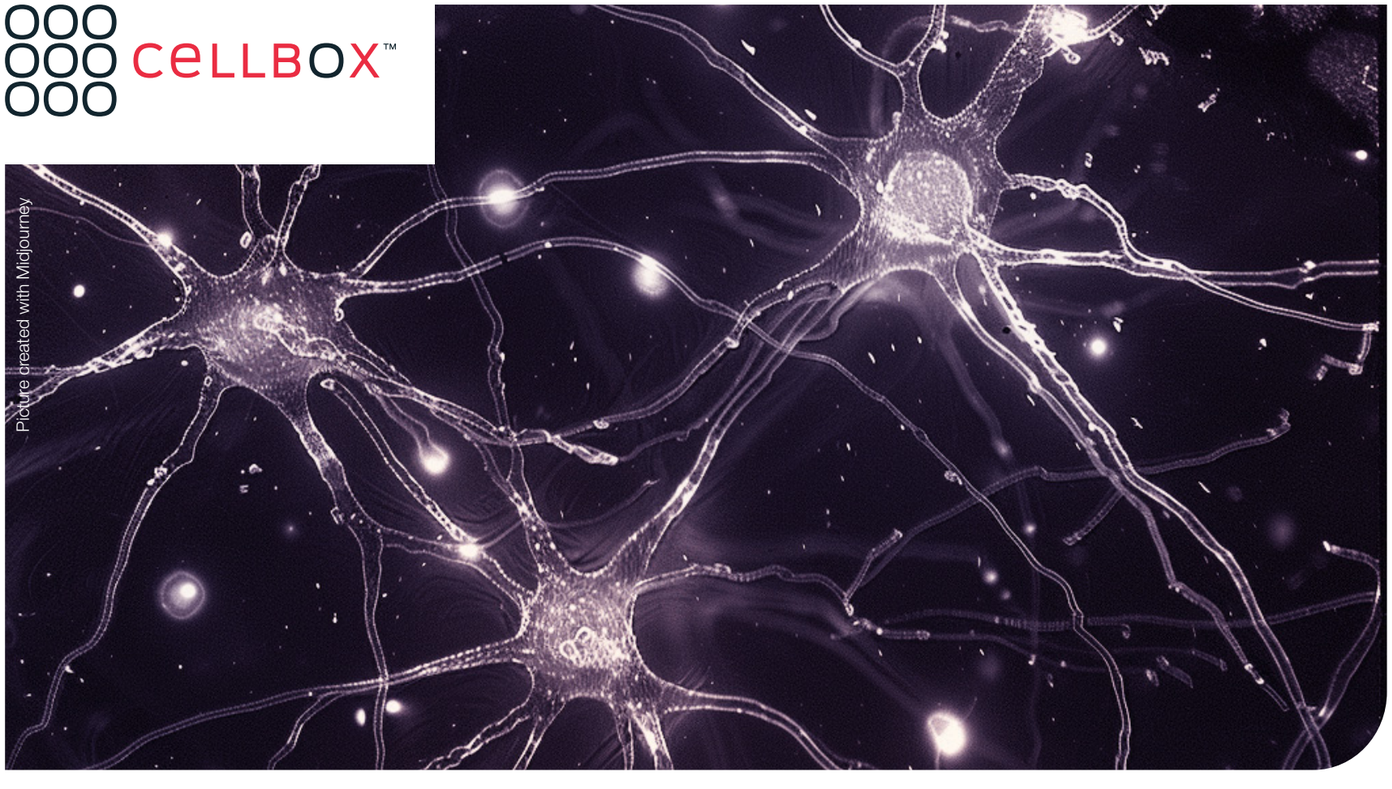


Transporting

Sensory neurons as in vitro models for neurological disorders and neuropathic pain

Cellbox Solutions

LIFE & BRAIN GmbH is specialized on genomic and stem cell based research and development services. Human iPSC-derived cells of the central and peripheral nervous system are powerful in vitro models for disease research and drug discovery applications. Employing the Cellbox™ for environment-controlled transport of high quality customized human cellular models helps us to provide live and assay-ready cells to our partners.

> "The Cellbox™ provides a highly reliable tool for live transport of highly sensitive stem cell populations and their derivatives.

THE PROJECT

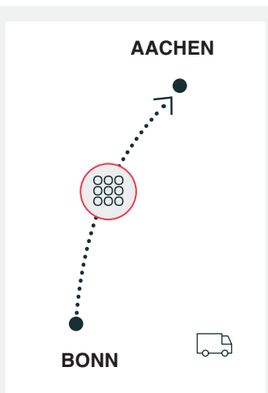
By utilising iPS-technology, scientists at LIFE & BRAIN have been able to develop advanced in vitro models of sensory neurons.In this project, the sensory neurons are sent between two sites on a regular basis and the workflow is dependant on the easy-to-use Cellbox™ to provide excellent research. The 24 well multi-electrode array plates can be plated at Bonn and immediately put into assay at Aachen.

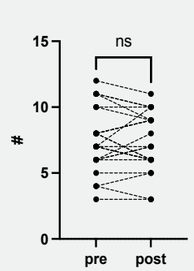
As part of the validation, the project looked into the plate read-outs before and after the transport of 100 km by car where the Cellbox™ maintained a steady 37°C and 5% CO_2 atmosphere.

THE OUTCOME

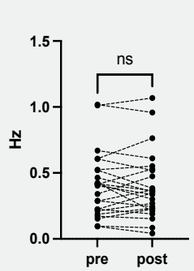
The pre- and post-transport plate read-outs showed no significant difference, attributed to the exceptional performance of the Cellbox™ device to keep the cells in a steady environment throughout the transport.

The Cellbox™ have been used for this, and similar projects at LIFE & BRAIN since 2018. The device has truly facilitated collaborations, both regionally and internationally.

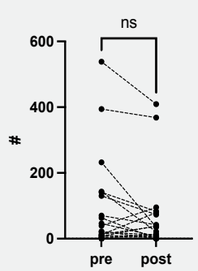




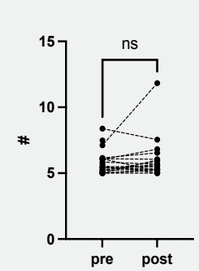
Number of Active Electrodes



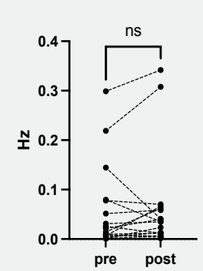
Mean Firing Rate



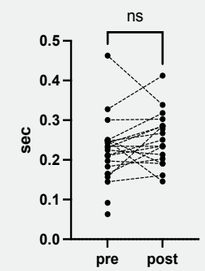
Number of Bursts



Number of Spikes per Burst



Burst Frequency



Burst Duration

LIFE & BRAIN GmbH