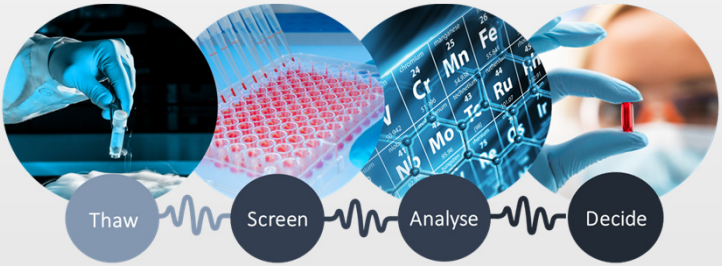
R2U-TOX-ASSAY

Human Diversity in a 96 well Format for Improved Drug Discovery

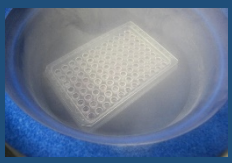


On-demand hiPSC-based cell models in *ready-to-use* 96 well plate format for phenotypic and toxicological screening

The combination of human induced pluripotent stem cell (hiPSC) technologies with our advanced vitrification-based cryotechnology platform leads to:

- Time and resources savings due to a more reliable design of screening campaigns
- Stock keeping of mature hiPSC-based model systems
- High-quantity production and cryopreservation of adherent cell models using scalable platform technologies
- Reduction of animal testing by using human model systems with higher predictive value
- Facilitating early-killer experiments improving efficiency in drug discovery

Ultra-low-temperature stable 96 well plate enables ice-free cryopreservation (vitrification) of adherent cell models

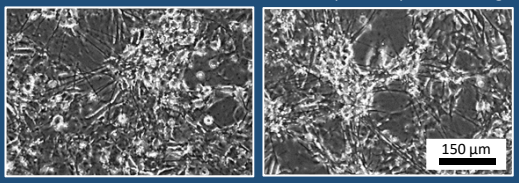


Neural *R2U* plate

Neural co-culture consisting of astrocytes & midbrain neurons

Non-frozen control

Vitrified product post warming

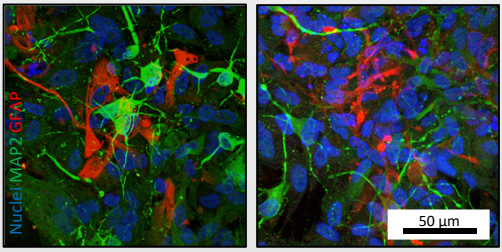


Preservation of neural network morphology and cell number

Transmitted light images of a vitrified (24h after warming) and non-frozen neural co-culture.

Non-frozen control

Vitrified product post warming

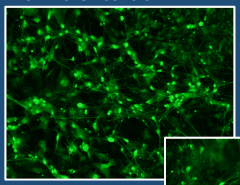


Maintenance of neural-specific gene and protein expression levels (ICC, qPCR, FACS)

Key biomarkers: GFAP, MAP2, TUBB3, S100b

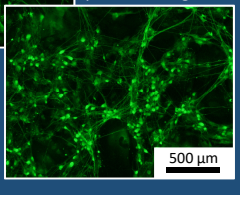
Fluorescence images of a vitrified (24h after warming) and non-frozen neural co-cultures visualized using the markers for astrocytes (GFAP) and neurons (MAP2).

Non-frozen control

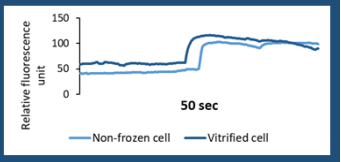


Maintenance of spontaneous electrical activity examined by calcium imaging

Vitrified product post warming



Neural co-culture after Fluo-4 loading.



Positive action potential measured by relative fluorescence signal in comparison between a non-frozen and vitrified cell (24h after warming).

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