
Symposium 10: Tendon Therapy Train Symposium

**ENGINEERING FUNCTIONAL IN VITRO MICROENVIRONMENTS FOR CELL BASED THERAPIES – H2020:
ITN – TENDON THERAPY TRAIN SYMPOSIUM**

Organizer

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Theme

Cell based therapies requires removal of cells from their optimal in vivo tissue context and propagation in vitro to obtain therapeutically relevant numbers. However, in vitro cell expansion is associated with phenotypic drift, cell senescence and loss of cells' therapeutic potential. The Tendon Therapy Train, an H2020 ITN project, aims to create functional in vitro microenvironments that would either maintain permanently differentiated cell phenotype or differentiate stem cells towards specific lineage. To this end, biophysical (e.g. surface topography, substrate rigidity, macromolecular crowding, mechanical loading), biochemical (e.g. oxygen tension) and biological (e.g. growth factor media supplements) tools are under intense scientific research and technological innovation. This symposium will discuss how these in vitro microenvironment modulators will control cell function in vitro and ultimately enable clinical translation and commercialisation of cell-based therapies.

Invited Speakers

Tendon Therapy – From Concept to Commercialisation

Yves Bayon, Medtronic, Sofradim Production, Trevoux, France, yves.bayon@medtronic.com
(30')n

How relevant are the small and large animal models?

Jayesh Dudhia, Royal Veterinary College, London, UK, jdudhia@rvc.ac.uk (30')

Engineering the tendon fibroblast micro-environment by surface topographies

Steven Vermeulen, Maastricht University, The Netherlands,
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The influence of biophysical cues on in vitro stem cell differentiation towards tenogenic lineage

Andrea De Pieri, Proxy Biomedical, Ireland, andrea.depieri@proxybiomedical.com (15')