

# 3<sup>rd</sup> International Conference on Tissue Science & Regenerative Medicine

September 24-26, 2014 Valencia Convention Centre, Spain

## Developmental origin of murine dermal precursor cells with neurogenic potential (and the implication of Sox2 levels in their neural fate)

Haizea Iribar, Usue Etzaniz, Virginia Perez-Lopez, Arika Gutierrez-Rivera and Ander Izeta  
Hospital Universitario Donostia, Spain

Currently unpublished studies in our group show that human neural precursor cells (hNPCs) resident in the dermis can be traced back to Schwann and perivascular niches. *In vivo* and *in vitro* fate analyses showed that neural competence is restricted to Schwann cell lineage and that it correlates with high Sox2 levels (Perez-San Vicente et al., 2014). Dermal cells may have diverse embryonic origins, from Wnt1+ neural crest in the head to Myf5+ presomitic mesoderm in the dorsal trunk skin and lateral plate mesoderm in the ventral trunk dermis. Thus, we aimed to investigate the embryonic origin of NPC in the ventral dermis, also analyzing the Sox2 implication in neural competence of this cell population. For this, we carried out lineage tracing analyses using Myf5-Cre (dermomyotome), Cspg4-Cre (perivascular and glial cell marker), and Sox10-Cre (neural crest) transgenic lines crossed with EYFP reporter mice. FACS-based dermal cell isolation in those models followed by neurogenic differentiation showed a major contribution of Myf5+ cells to the dermis-derived neurogenic precursor cell population in ventral trunk. Correlation studies with endogenous Sox2 levels are underway.

### Biography

Haizea Iribar completed her B.Sc. by Autonomous University of Barcelona (2010). The aim of her PhD project is to elucidate the ontogeny, expansion and differentiation capacity of neural precursor cells in mouse and human dermis, with the ultimate purpose of facilitating their therapeutic use through generation of tissue engineered constructs and help clarify their possible contribution to carcinogenic processes or other pathologies.

[HAIZEA.IRIBAR@biodonostia.org](mailto:HAIZEA.IRIBAR@biodonostia.org)