

Role of *unorthodox* glial pituicytes in vertebrate neurovascular morphogenesis



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In vertebrates, the brain must communicate with the body to enable an animal's survival and homeostasis. However, this poses a challenge. The brain must be protected by a blood-brain barrier while at the same time, it must also sense, react and respond to the blood-borne molecules. Studying how some tissue in the brain form a blood-brain barrier while other tissues lacks it can help in understanding the genetics of BBB-related brain diseases. In this talk, I will summarize our findings on how zebrafish can be used as a vertebrate model organism to address such questions *in vivo*. Specifically, I will present our data on the role of glial pituicytes in the neurovascular development of neurohypophysis, a major neuroendocrine interface that lacks a blood-brain barrier. I will also present our recent efforts to generate zebrafish F0 CRISPR knockouts and computational tools that we built to map the zebrafish ligand-receptor interactome.

Dr Savani Anbalagan received his Master's in Biotechnology from SASTRA University, India.

Between 2010-2012: He did his PhD research in Prof. Maria Pia Longhese's group at Univ. of Milano-Bicocca (Italy) on mechanisms protecting telomeres in budding yeast. He was an EU FP7 Marie Curie fellow.

Between 2013-2019: After his PhD, he moved to Israel for a post-doctoral fellowship (2013-2019) in Prof. Gil Levkowitz's group at the Weizmann Institute of Science. He also switched from budding yeast to zebrafish and studied how glial cells regulate neurovascular development. He was a recipient of Israeli Higher Education Council postdoc fellowship award and Weizmann Inst. Koshland Fellowship award.

In 2020: He joined UAM, IBMIB and brought with him his expertise on zebrafish and established a research group. Savani continues to explore the role of glia using zebrafish as model organism. He is currently funded by NCN Sonata and Sonata-BIS grants.