İstanbul Bilgi University

Department of Genetics and Bioengineering
10th Anniversary Year (2010-11 - 2020-21)
Seminar Series

Building the roof of mouth
Role of TGFβ in craniofacial development

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30 March 2021; 18:00

Register in advance for this webinar:
https://us02web.zoom.us/webinar/register/WN_0D-yMGmxTWWRH21_5myIvw

About the Seminar:
The role of TGFβ in craniofacial and palate development has been well document two decades ago, but how this cytokine signals to bring palatal had not been studied till 2003, when we first documented (J Cell Biology, 2003) that during palatal seam disintegration by TGFβ3 involve complex signaling pathways to disintegrate palatal seam. Subsequently, our lab has been contributing to identifying downstream signaling cross talks, kinetics of interactions during palatal seam disintegration. In this talk, we will discuss few new findings of where we mapped a holistic gene expression and its relevant pathways in mutant mice. Moreover, we will briefly discuss our new project where we study the gene expression in periodontitis and how simvastatin (a commonly used cholesterol lowering drug) can repair/regenerate periodontal diseases

About the Speaker:
As a craniofacial developmental biologist, I have long experience in cell signaling that governs craniofacial primordia. With my initial dental degree and subsequent MS, PhD in cell/molecular biology (University of Queensland, Australia) primed me to have better understanding of oral/craniofacial biology. And a four-year fellowship at the laboratory of Prof. Elizabeth D. Hay (Member, National Academy of Science) at Department of Cell Biology, Harvard Medical School allowed me to have in depth knowledge in embryogenesis, particularly the development of facial primordia and palate. My 20+ years of experience, publications, and NIH grants attest my expertise in Transforming Growth Factor (TGF) β signaling and the regulation of its downstream signaling partners in craniofacial tissue morphogenesis, particularly palate development. I strongly believe that by detailed and extensive quantitative experimentation of basic biological studies (cellular, structural) and the newest molecular biological determinants (genetic/dye cell lineage, gene activity, kinase/enzyme activity), Bioinformatics, as well as animal model (knockouts, transgenic) approaches are key to understand palate development. My lab historically has been in the forefront in contributing basic biochemistry of TGFβ3 signaling in palate development using both in vitro and in vivo models.

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