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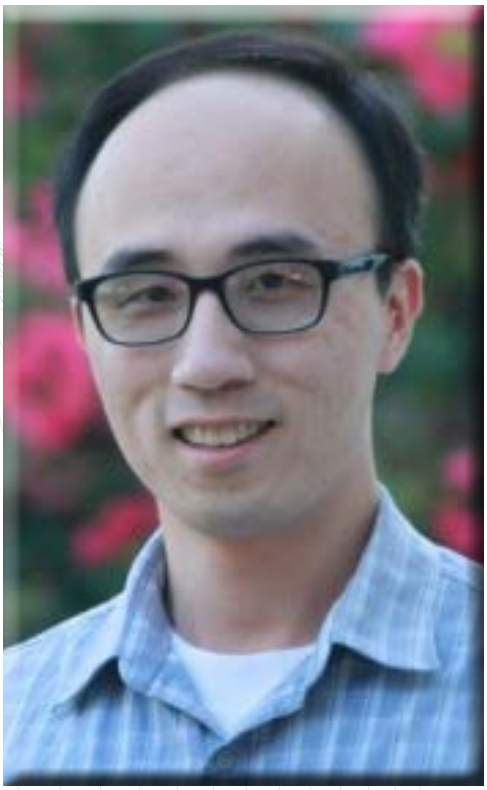
Zoom: myumi.ch/84GyZ

Unexpected determinants of neuronal identity and properties: the curious cases of PTBP1, PTBP2, and neuronal splicing



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Abstract

Alternative splicing is the major contributor to transcriptome diversity, but splicing is noisy and to what extend alternative splicing regulation is indispensable for biolgical processes has been controversial. Our studies have revealed the regulation and function of neural-specific splicing in shaping neuronal identity and estalishing neurons' two unique attributes: 1. Axonogenesis (Only neurons but no other cell types have one and single axon); 2. Neuronal longevity (Neurons are the most long-lived cell types). We show that obtaining these neuronal features is coordinated by RNA binding proteins PTBP1 and PTBP2, while PTBP1 was suggested by others to be a reprogramming factor of neuronal fate. I will discuss the regulatory mechanism of neural specific splicing underlying neurogensis and maturation.

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