

Toward brain injury therapy: from epigenome, mitochondrial homeostasis to drug development

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Abstract

Traumatic brain injury (TBI) remains to be an unmet medical need due to its high mortality and morbidity. Approximately 70 million individuals worldwide suffered from TBI every year. Severe TBI patients have twice the risk of developing neurodegenerative diseases later in their life, underscoring the long-term clinical burden and the urgent need for therapeutic interventions. Our research team is dedicated to developing early interventions for treating TBI. Physiological functions of neurons highly depend on mitochondria. As mitochondrial integrity is compromised by injury, neurons initiate a cascade of events to maintain homeostasis of mitochondria. In this talk, I will share our findings underlie the regenerative potential of injured brain neurons and functional recovery. In addition, I will also share our endeavor on the development of small molecule compounds toward treating traumatic brain injury.