ENVIRONMENTAL ENRICHMENT IMPACT ON Tip60 HAT ACTION IN COGNITIVE ENHANCEMENT

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My laboratory is focused on understanding the mechanism(s) underlying epigenetic modes of gene control specifically associated with neurogenesis by using novel techniques in Drosophila and rodent models to identify specific HATs that regulate neuronal processes in the brain. We are currently exploring how specific HATs control neuronal processes such as neuroblast formation, axonal outgrowth, and the synaptic plasticity involved in learning and memory, as well as investigating HAT involvement in age related cognitive decline and neurodegenerative disorders previously not known to be epigenetically-linked. We are also developing multicellular models for the screening and identification of epigenetically based pharmacological drugs that can specifically target and modulate these regulators and the neuronal processes they mediate. In addition to providing new biological insight into epigenetic gene control mechanisms underlying neurogenesis, neurodegeneration, and cognitive decline during aging, these studies will be fundamental in exploring the utility of novel epigenetic-based therapeutics to improve healthcare and quality of life in the elderly.

REFERENCES


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