BURKE MEDICAL RESEARCH INSTITUTE | Weill Cornell Medicine

Special Seminar
Ahsen Lecture in Autism Research

Tuesday, 4/4/2017, 12:30pm, Billings Building – Rosedale Conference Room

"Signaling Networks that Regulate Synapse Development and Cognitive Function"

Michael E. Greenberg, Ph.D.
Professor of Neurobiology
Chair of the Department of Neurobiology
Harvard Medical School

Activity Dependent Plasticity

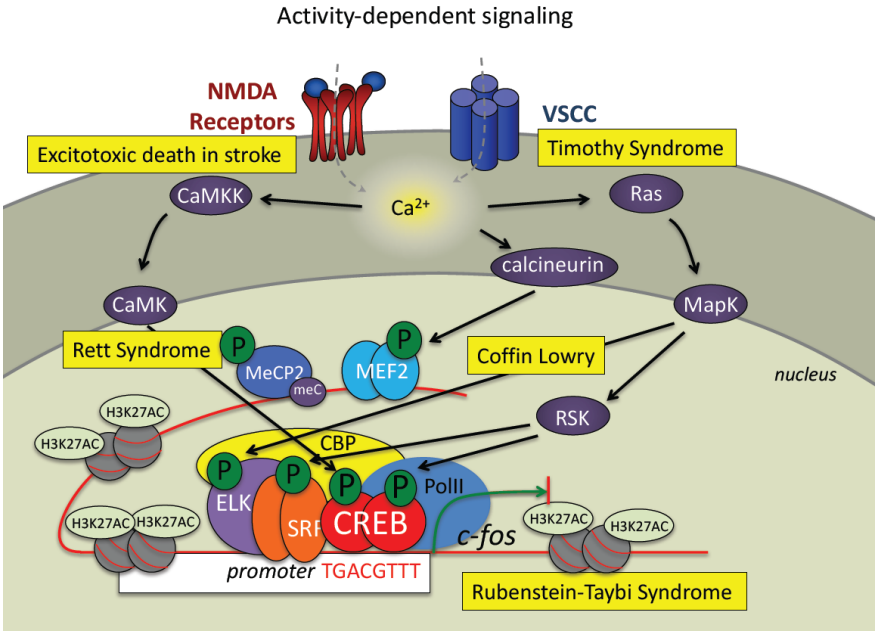
Experience-dependent neuronal activity plays a critical role in shaping the connectivity and function of the central nervous system. These actions are mediated in part by the action of a program of neuronal activity-driven gene expression. Investigation of these gene expression programs has uncovered important roles in dendritic growth, the development of excitatory and inhibitory synapses, the composition of protein complexes at pre- and post-synaptic sites, and the production of neuropeptides that control neural circuit development. In his lecture, Mike will discuss recent progress in our understanding of the neuronal activity-dependent gene network and how human mutations in components of this signaling network lead to neurological disease.

Recent Publications:

Sensory experience regulates cortical inhibition by inducing IGF1 in VIP neurons. Mardinly AR[1], Spiegel I[2], Patrizi A[3], Centofante E[3], Bazinet JE[2], Tzeng CP[2], Mandel-Brehm C[2], Harmin DA[2], Adesnik H[1], Fagiolini M[3], Greenberg ME[2]. Nature. 2016 Mar 17;531(7594):371-5. doi: 10.1038/nature17187. Epub 2016 Mar 9.

Evolution of Osteocrin as an activity-regulated factor in the primate brain. Ataman B[1], Boulting GL[1], Harmin DA[1], Yang MG[1], Baker-Salisbury M[1], Yap EL[1], Malik AN[1], Mei K[1], Rubin AA[1], Spiegel I[1], Durresi E[1], Sharma N[1], Hu LS[1], Pletikos M[2], Griffith EC[1], Partlow JN[3], Stevens CR[4], Adli M[5], Chahrour M[6], Sestan N[2], Walsh CA[3], Berezovskii VK[1], Livingstone MS[1], Greenberg ME[1]. Nature. 2016 Nov 10;539(7628):242-247. doi: 10.1038/nature20111.

DNA methylation in the gene body influences MeCP2-mediated gene repression. Kinde B[1], Wu DY[2], Greenberg ME[3], Gabel HW[4]. Proc Natl Acad Sci U S A. 2016 Dec 27;113(52):15114-15119. doi: 10.1073/pnas.1618737114. Epub 2016 Dec 13.



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