NIGMS Science Advance

Project Title: Determining the Transcriptional Regulation and Cell Signaling Events That shape molecular Identity of Dopamine neuron progenitors and Specify Subtypes of midbrain dopamine Neurons

Institution and State: Rhode Island Hospital, Providence, Rhode Island

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Background Studying dopamine neurons derived from embryonic stem cells. These are the cells which are implicated in Parkinson's disease. Work has been defining the molecular subtypes and physical positioning of the neurons, goal is to be able to direct embryonic stem cells to produce neurons which could replace damaged neurons in Parkinson's Disease

Advance: Defined n role of WNT1 in midbrain dopamine neuron development which could lead to unique therapeutic strategies for treatment of Parkinson's Disease

How NIGMS Grant Enabled Advance: Work was directly supported by funds from the grant

Public Health Impact Statement: This represents a step forward in defining the regulation of neurons involved in Parkinson's disease

NIH Director's theme(s) relevance*: A step forward in understansding neurologi diseases

Grant Support: COBRRE

Publication Citation and Link:

Dynamic temporal requirement of Wnt1 in midbrain dopamine neuron development.
Yang J, Brown A, Ellisor D, Paul E, Hagan N, **Zervas M**. Development. 2013 Mar;140(6):1342-52. doi: 10.1242/dev.080630. PMID:23444360 [PubMed - indexed for MEDLINE]

Key Words: Dopamine neurons, WNT1

NIGMS Point of Contact:

NIH Director's Themes: Genomics, Translational Research, Health Care Reform, Global Health, Reinvigorating the Biomedical Community.
http://nexus.od.nih.gov/all/2009/09/01/five-themes-for-the-nih-3/
http://news.sciencemag.org/funding/2010/02/nih-director-bends-budget-fit-five-themes