Resource Summary Report

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Genes to Cognition: Neuroscience Research Programme

RRID:SCR_007121
Type: Tool

Proper Citation

Genes to Cognition: Neuroscience Research Programme (RRID:SCR_007121)

Resource Information

URL: http://www.genes2cognition.org/

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Description: A neuroscience research program that studies genes, the brain and behavior in an integrated manner, established to elucidate the molecular mechanisms of learning and memory, and shed light on the pathogenesis of disorders of cognition. Central to G2C investigations is the NMDA receptor complex (NRC/MASC), that is found at the synapses in the central nervous system which constitute the functional connections between neurons. Changes in the receptor and associated components are thought to be in a large part responsible for the phenomenon of synaptic plasticity, that may underlie learning and memory. G2C is addressing the function of synapse proteins using large scale approaches combining genomics, proteomics and genetic methods with electrophysiological and behavioral studies. This is incorporated with computational models of the organization of molecular networks at the synapse. These combined approaches provide a powerful and unique opportunity to understand the mechanisms of disease genes in behavior and brain pathology as well as provide fundamental insights into the complexity of the human brain. Additionally, Genes to Cognition makes available its biological resources, including gene-targeting vectors, ES cell lines, antibodies, and transgenic mice, generated for its phenotyping pipeline. The resources are freely-available to interested researchers.

Synonyms: G2C Neuroscience Research Program, G2C Research Programme, Genes to Cognition: Neuroscience Research Program, Genes to Cognition, G2C, Genes to Cognition - Neuroscience Research Programme, Genes to Cognition-Neuroscience Research Programme, G2C Research Program

Resource Type: data or information resource, topical portal, portal

Keywords: cognition, gene, neuroscience

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MRC ;
BBSRC ;
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Resource Name: Genes to Cognition: Neuroscience Research Programme

Resource ID: SCR_007121

Alternate IDs: nif-0000-10235

Record Creation Time: 20220129T080240+0000

Record Last Update: 20250516T053847+0000

Ratings and Alerts

No rating or validation information has been found for Genes to Cognition: Neuroscience Research Programme.

No alerts have been found for Genes to Cognition: Neuroscience Research Programme.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 18 mentions in open access literature.

Listed below are recent publications. The full list is available at NIF.

Okuzono S, et al. (2024) An N-terminal and ankyrin repeat domain interactome of Shank3 identifies the protein complex with the splicing regulator Nono in mice. Genes to cells : devoted to molecular & cellular mechanisms, 29(9), 746.

Fass DM, et al. (2022) Brain-specific deletion of GIT1 impairs cognition and alters

phosphorylation of synaptic protein networks implicated in schizophrenia susceptibility. Molecular psychiatry, 27(8), 3272.

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He Z, et al. (2019) A genome-wide scan statistic framework for whole-genome sequence data analysis. Nature communications, 10(1), 3018.

Weyn-Vanhentenryck SM, et al. (2018) Precise temporal regulation of alternative splicing during neural development. Nature communications, 9(1), 2189.

Fernández E, et al. (2017) Arc Requires PSD95 for Assembly into Postsynaptic Complexes Involved with Neural Dysfunction and Intelligence. Cell reports, 21(3), 679.

Cheng TL, et al. (2017) Regulation of mRNA splicing by MeCP2 via epigenetic modifications in the brain. Scientific reports, 7, 42790.

Zografos L, et al. (2016) Functional characterisation of human synaptic genes expressed in the Drosophila brain. Biology open, 5(5), 662.

Grant SG, et al. (2012) Synaptopathies: diseases of the synaptome. Current opinion in neurobiology, 22(3), 522.

Darnell JC, et al. (2011) FMRP stalls ribosomal translocation on mRNAs linked to synaptic function and autism. Cell, 146(2), 247.

Camp MC, et al. (2011) A novel role for PSD-95 in mediating ethanol intoxication, drinking and place preference. Addiction biology, 16(3), 428.

Whibley AC, et al. (2010) Fine-scale survey of X chromosome copy number variants and indels underlying intellectual disability. American journal of human genetics, 87(2), 173.

Croning MD, et al. (2009) G2Cdb: the Genes to Cognition database. Nucleic acids research, 37(Database issue), D846.

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Pocklington AJ, et al. (2006) The proteomes of neurotransmitter receptor complexes form modular networks with distributed functionality underlying plasticity and behaviour. Molecular systems biology, 2, 2006.0023.

Anderson CN, et al. (2006) High throughput protein expression screening in the nervous

system--needs and limitations. The Journal of physiology, 575(Pt 2), 367.