Resource Summary Report

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Mouse Neuronal Expression Database

RRID:SCR_002043
Type: Tool

Proper Citation

Mouse Neuronal Expression Database (RRID:SCR_002043)

Resource Information

URL: http://www.credrivermice.org/expression/

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Description: Database of microarray analysis of twelve major classes of fluorescent labeled neurons within the adult mouse forebrain that provide the first comprehensive view of gene expression differences. The publicly available datasets demonstrate a profound molecular heterogeneity among neuronal subtypes, represented disproportionately by gene paralogs, and begin to reveal the genetic programs underlying the fundamental divisions between neuronal classes including that between glutamatergic and GABAergic neurons. Five of the 12 populations were chosen from cingulate cortex and included several subtypes of GABAergic interneurons and pyramidal neurons. The remaining seven were derived from the somatosensory cortex, hippocampus, amygdala and thalamus. Using these expression profiles, they were able to construct a taxonomic tree that reflected the expected major relationships between these populations, such as the distinction between cortical interneurons and projection neurons. The taxonomic tree indicated highly heterogeneous gene expression even within a single region. This dataset should be useful for the classification of unknown neuronal subtypes, the investigation of specifically expressed genes and the genetic manipulation of specific neuronal circuit elements. Datasets: * Full: Here you can query gene expression results for the neuronal populations * Strain: Here you can query the same expression results accessed under the full checkbox, with one additional population (CT6-CG2) included as a control for the effects of mouse strain. This population is identical to CT6-CG (YFPH) except the neurons were derived from wild-type mice of three distinct strains: G42, G30, and GIN. * Arlotta: Here you can query the same expression results accessed under the full checkbox, with nine additional populations from the dataset of Arlotta et al., 2005. These populations were purified by FACS after retrograde labeling with fluorescent microspheres. Populations are designated by the prefix ACS for corticospinal neurons, ACC for corticocallosal neurons and ACT for corticotectal neurons, followed by the suffix E18 for gestational age 18 embryos, or P3, P6 and P14 for postnatal day 3, 6 and 14 pups. For each successful gene query the following information is returned: # Signal level line plot: Signal level is plotted on Y-axis (log base 2) for each sample. Samples include the thirty six representing the

twelve populations profiled in Sugino et al. In addition, six samples from homogenized (=dissociated and but not sorted) cortex are included representing two different strains: G42-HO is homogenate from strain G42, GIN-HO is homogenate from stain GIN. # Signal level raster plots: Signal level is represented by color (dark red is low, bright red is high) for all samples. Color scale is set to match minimum (dark red) and maximum (bright yellow) signal levels within the displayed set of probe sets. # Scaled signal level raster plots: Same as 2) except color scale is adjusted separately for each gene according to its maximum and minimum signal level. # Table: Basic information about the returned probe sets: * Affymetrix affyid of probe set * NCBI gene symbol, NCBI gene name * NCBI geneID * P-value score from ANOVA for each gene is also given if available (_anv column). P-value represents the probability that there is no difference in the expression across cell types.

Abbreviations: MNED

Synonyms: NIH Neuroscience Blueprint Cre Driver Network Expression DB, NIH Neuroscience Blueprint Cre Driver Network - Expression DB

Resource Type: data or information resource, database

Keywords: expression profile, forebrain, functional, gabaergic neuron, amygdala, array, cell type, cell type comparison, microarray, cingulate cortex, classify, genomics, glutamatergic, hippocampus, interneuron, molecular, adult mouse, neuron, pyramidal neuron, somatosensory cortex, taxonomy, thalamus, gene, embryonic mouse

Availability: THIS RESOURCE IS NO LONGER IN SERVICE

Resource Name: Mouse Neuronal Expression Database

Resource ID: SCR_002043

Alternate IDs: nif-0000-12084

Old URLs: http://mouse.bio.brandeis.edu:8080/

Record Creation Time: 20220129T080211+0000

Record Last Update: 20260804T043131+0000

Ratings and Alerts

No rating or validation information has been found for Mouse Neuronal Expression Database.

No alerts have been found for Mouse Neuronal Expression Database.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We have not found any literature mentions for this resource.