

Virtual Fly Brain www.virtualflybrain.org

David Osumi-Sutherland¹, Marta Costa¹, Nestor Milyaev², Gregory S.X.E. Jefferis³, Cahir J. O’Kane¹, J. Douglas Armstrong²

¹Department of Genetics, University of Cambridge, UK; ²School of Informatics, Edinburgh University, UK; ³MRC Laboratory of Molecular Biology, Cambridge, UK.

Find neurons and brain regions

Search as you type

Search for anatomy term/neuron

adPN DL1
adult antennal lobe projection neuron DL1 adPN
DL1 adPN (synonym)
adult antennal lobe projection neuron DL2d adPN
DL2d adPN (synonym)

adult antennal lobe projection neuron DL1 adPN

Definition: Antennal lobe projection neuron from the ad neuroblast lineage whose dendrites innervate only antennal lobe glomerulus DL1. Neurons of this class are derived from the first larval division of the antero-dorsal antennal lobe neuroblast (Yu et al., 2010).

Comment: For image, see doi:10.1371/journal.pbio.1000461.g002.

Synonyms:
* DL1 adPN

References:
* Yu et al., 2010, PLoS Biol. 8(8);
* Shimomura and Luo, 2007, Curr. Biol. 17(3): 278–285
* Jefferis et al., 2001, Nature 414(6860): 204–208

Parent classes:
* persistent antennal lobe projection neuron * adult uniglomerular antennal lobe projection neuron adPN

Relationships:
* develops_from antero-dorsal AL neuroblast
* has_postsynaptic_terminals_in antennal lobe glomerulus DL1 See in the viewer >>
* part_of adult brain See in the viewer >>

Check in FlyBase >>
Example neuron images

DvGlutMARCM-F003113_seg001 Source: FlyCircuit DvGlutMARCM-F003782_seg001 Source: FlyCircuit DvGlutMARCM-F1736_seg1 Source: FlyCircuit DvGlutMARCM-F1977_seg1 Source: FlyCircuit DvGlutMARCM-F366_seg1 Source: FlyCircuit Show all >>

search with any name from literature

definition
references
synonyms
relationships

... or just click on a region

magnification: 1:2
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Front Horiz Sagit Fx Pt
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Stack Info: Template data by Amin Jenett (Janelia Farm Research Campus), Kazunori Shinomiya and Kel Ito (Tokyo University)
clamp

Definition: Synaptic neuropil domain lying between the fan-shaped body, the protocerebral bridge and mushroom body pedunculus, including the area above and below the pedunculus (the space occupied by the pedunculus forms a deep tunnel-like recess on its inferior lateral side). It is slightly detached from the crepine neuropil, because the lateral complex lies between them. Few neurons in the clamp penetrate the pedunculus, but some enter the glomerular posterior lateral protocerebrum and posterior ventrolateral protocerebrum (PLP, PVLP), forming a characteristic cylindrical architecture around the pedunculus. Some fibers spanning the superior surface project into the superior arch commissure.

Focus term: clamp

Clear all Selections

adult brain centre
adult subesophageal ganglion centre
supraesophageal ganglion centre
adult antennal lobe centre
adult central complex centre
adult mushroom body centre
inferior neuropils centre
anterior centre
crepine centre
interior bridge centre
lateral complex centre
lateral horn centre
optic lobe centre
lobula complex centre
medulla centre
periesophageal neuropils centre
superior neuropils centre
ventrolateral neuropils centre
ventromedial neuropils centre

Right/crtl click for queries

Run queries ←

1. Find transgenes

Query: Transgenes expressed in adult mushroom body

Records found: 1111 Page 1 of 1 Records per page: All Save as CSV

Driver/reporter	Expressed in	Reference	View
PBac[754.P.FSVS-0]fax[CPTI002774]	adult mushroom body	Knowles-Barley, 2011.8.24, BrainTrap expression curation.	
P[GAL4]17d	Kenyon cell	Liu et al., 1999, Nature 400(6746): 753–756	
P[GAL4]17d	mushroom body alpha-lobe	Zars et al., 2000, Science 288(5466): 672–675	
P[GAL4]17d	mushroom body alpha-lobe	Kitamoto, 2002, Proc. Natl. Acad. Sci. USA 99(20): 13232–13237	
P[GMR10B05-GAL4]	adult mushroom body	Pfeiffer et al., 2011.2.9, GAL4 JFRC Rubin Lab collection.	
P[GMR10B06-GAL4]	adult mushroom body	Pfeiffer et al., 2011.2.9, GAL4 JFRC Rubin Lab collection.	
P[GMR10B08-GAL4]	adult mushroom body	Pfeiffer et al., 2011.2.9, GAL4 JFRC Rubin Lab collection.	

Neuron classes with:
some part here
synaptic terminals here 3
presynaptic terminals here
postsynaptic terminals here

Individual neurons with:
some part here 4
Tracts/nerves innervating here
Transgenes expressed here 1
Genes expressed here
Phenotypes here 2

Cancel

linked images from 3rd party sources:

FlyCircuit;
BrainTrap;
Janelia GAL4 collection*

2. Find Phenotypes

Query: Phenotypes expressed in adult mushroom body

Records found: 156 Page 1 of 1 Records per page: All Save as CSV

Allele	Phenotype in	Reference	View
ey[R]	Kenyon cell (*)	Noveen et al., 2000, Development 127(16): 3475–3488	
ey[Scer\UAS.Cha]	Kenyon cell (*)	Noveen et al., 2000, Development 127(16): 3475–3488	
Gad1[GD8508]	mushroom body anterior paired lateral cell (*)	Liu and Davis, 2009, Nat. Neurosci. 12(1): 53–59	
Gl[Delta.Scer\UAS]	CSD interneuron (*)	Roy et al., 2007, Neural Develop. 2: 20	

Data from FlyBase

Coming soon to VFB:

- Complete coverage of nervous system – all regions, all stages ~ 4000 terms.
- Queries for neurons by tract, synaptic connectivity, neurotransmitter, lineage.
- Queries of all public Janelia GAL4 lines by brain region

3. Find published neurons

Query: Neurons with synaptic terminals in antennal lobe glomerulus DL1

Records found: 4 Page 1 of 1 Records per page: All Save as CSV

adult antennal lobe projection neuron DL1 adPN

Antennal lobe projection neuron from the ad neuroblast lineage whose dendrites innervate only antennal lobe glomerulus DL1. Neurons of this class are derived from the first larval division of the antero-dorsal antennal lobe neuroblast (Yu et al., 2010).

adult olfactory receptor neuron Or10a

Bilateral olfactory receptor neuron (ORN) that expresses Or10a (FBgn0030298). Its axon branches, with one branch innervating the ipsilateral antennal lobe glomerulus DL1 and the other fasciculating with the ...

multiglomerular antennal lobe projection neuron L3 adPN

Multiglomerular adult antennal lobe projection neuron of the adPN lineage. It is born from the 20th larval division of the antero-dorsal antennal lobe neuroblast, after the division that produces L2 adPN. Its ...

Query: Find all neurons that have synaptic terminals in lobula and have synaptic terminals in ventrolateral protocerebrum

Records found: 5 Page 1 of 1 Records per page: All Save as CSV

lobula columnar neuron Lcn4

An extrinsic columnar neuron that has a fine terminal arborization in lobula layers 2, 3 and 4. It projects to an optic glomerulus in the ventrolateral protocerebrum. There are an estimated 31–36 cells in this ...

lobula columnar neuron Lcn6

An extrinsic columnar neuron that branches and arborizes in the lobula with a mix of bleb-type and fine terminals in layers 3–6. It fasciculates in the anterior optic tract, fasciculating with Lcn9 (Otsuna and ...

4. Find neuron images

Clustered by shape using Nblast**

Query: Neurons with some part in medulla clustered by shape

Records found: 140 Page 1 of 1 Records per page: All Save as CSV

Exemplar neuron Name	Exemplar neuron	Cluster	Members of cluster
DvGlutMARCM-F003569_seg001			Show individual neurons >>
DvGlutMARCM-F003641_seg003			

Browse 3D rotatable images of clusters

* Live on VFB & FlyBase by first week November.

** See Costa et al. Poster number 146

Acknowledgments: We sincerely thank Professor Ann-Shyn Chiang for generously sharing with us the raw data for the FlyCircuit dataset (Chiang et al., 2011, Curr. Biol. 21(1): 1–11); <http://www.flycircuit.tw/>