**Table S5. Ant genes leading to enrichment of immunoglobulin PFAM domains in ant WGCNA modules A14 and A15. Many of these genes have developmental and functional associations with neuronal tissues (but not always exclusively).**

|  |  |  |
| --- | --- | --- |
| **BLAST annotation** | **Neuron associated** | **References** |
| basement membrane-specific heparan sulfate proteoglycan core protein | yes | (Lindner *et al.* 2007; Cho *et al.* 2012) |
| cell adhesion molecule 2 | - |  |
| Down syndrome cell adhesion molecule-like protein Dscam2 | yes | (Clandinin and Zipursky 2002; Lah *et al.* 2014) |
| follistatin-related protein 5 | yes | (Bickel *et al.* 2008; Pentek *et al.* 2009) |
| hemicentin-2 | - |  |
| igLON family member 5 | yes | (Carrillo *et al.* 2015) |
| immunoglobulin domain-containing protein oig-4 | yes | (Rapti *et al.* 2011; Sengupta *et al.* 2019) |
| inactive tyrosine-protein kinase 7 | - |  |
| irregular chiasm C-roughest protein | yes(esp. antennae) | (Ramos *et al.* 1993; Venugopala Reddy *et al.* 1999) |
| lachesin | yes | (Karlstrom *et al.* 1993; Strigini *et al.* 2006) |
| leucine-rich repeat-containing protein 24 | yes | (Dolan *et al.* 2007; Carrillo *et al.* 2015) |
| leucine-rich repeat-containing protein 4 | yes | (Dolan *et al.* 2007; Carrillo *et al.* 2015) |
| neogenin | yes | (Wilson and Key 2007) |
| nephrin | yes (mammal)nephrocytes (insect) | (Zhuang *et al.* 2009; Li *et al.* 2011) |
| netrin receptor UNC5C | yes | (Keleman and Dickson 2001; Kang *et al.* 2019) |
| neuroglian | yes | (Godenschwege and Murphey 2009; Goossens *et al.* 2011) |
| neurotrimin | yes (mammal) | (Krizsan-Agbas *et al.* 2008; Sanz *et al.* 2015) |
| neurotrimin-like | yes | (Krizsan-Agbas *et al.* 2008; Sanz *et al.* 2015) |
| obscurin | -(muscle) | (Katzemich *et al.* 2012, 2015) |
| opioid-binding protein/cell adhesion molecule homolog | yes (mammal) | (Miyata *et al.* 2003; Reed *et al.* 2007) |
| peroxidasin | - |  |
| protein borderless | yes | (Shaw *et al.* 2019) |
| protogenin | yes | (Wong *et al.* 2010; Yu *et al.* 2013) |
| T-lymphocyte activation antigen CD86 | - |  |
| tyrosine-protein phosphatase Lar | yes | (Sethi *et al.* 2010; Agrawal and Hardin 2016) |
| zwei Ig domain protein zig-8 | yes | (Bénard *et al.* 2012; Cheng *et al.* 2019) |

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