**Supplementary File 1. Presynaptic partners of AIA**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Neuron Class | Pre  synaptic Neuron | Chen et al., 2006 | | Cook et al., 2019 | | | | Neuro-transmitter |
| AIAL and AIAR | | AIAL | | AIAR | |
| Gap Junctions | Chemical Synapses | Gap Junctions | Chemical Synapses | Gap Junctions | Chemical Synapses |
| Sensory Neurons | ADFL | 1 |  |  | 1 |  |  | Acetylcholine + serotonin |
| ADFR |  |  | 3 |  |
| ADLL |  | 16 |  | 10 |  |  | Glutamate |
| ADLR |  |  |  | 11 |
| ASEL |  | 8 |  | 4 |  |  | Glutamate |
| ASER |  | 6 |  | 3 |
| ASGL |  | 19 |  | 15 |  |  | Glutamate |
| ASGR |  |  | 2 | 16 |
| ASHL |  | 17 |  | 13 |  |  | Glutamate |
| ASHR |  |  | 1 | 13 |
| ASIL | 4 | 4 | 1 | 1 |  |  | Orphan |
| ASIR | 1 | 1 | 1 | 3 |
| ASJL |  |  | 1 |  |  |  | Acetylcholine |
| ASJR |  |  |  |  |
| ASKL |  | 22 | 2 | 22 |  |  | Glutamate |
| ASKR |  | 1 | 1 | 25 |
| AWAL | 2 |  | 1 |  |  |  | Orphan |
| AWAR |  |  | 1 | 3 |
| AWBL |  |  | 1 | 2 |  |  | Acetylcholine |
| AWBR |  |  |  |  |
| AWCL |  | 8 |  | 2 |  | 3 | Glutamate |
| AWCR | 1 | 1 | 1 | 4 |
| Interneurons | ADAL |  |  |  | 1 |  |  | Glutamate |
| ADAR |  |  |  |  |
| AIAL | (N/A) | (N/A) |  |  | 1 |  | Acetylcholine |
| AIAR | 1 |  | 1 |  |
| AIBL |  |  | 2 |  |  |  | Glutamate |
| AIBR |  |  |  | 1 |
| AIML |  | 10 |  | 5 |  |  | Glutamate + serotonin |
| AIMR |  |  |  | 7 |
| AINL |  | 2 |  |  |  | 1 | Acetylcholine |
| AINR |  | 2 |  |  |
| AIZL |  | 4 |  | 8 |  |  | Glutamate |
| AIZR |  |  |  | 5 |
| AVFL |  |  |  |  |  |  | Orphan |
| AVFR |  | 1 |  |  |
| PVQL |  | 13 |  | 5 |  |  | Glutamate |
| PVQR |  | 1 |  | 10 |
| Motor Neurons | HSNL |  | 1 |  | 4 |  |  | Acetylcholine + serotonin |
| HSNR |  | 2 |  |  |