|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Arc | Connection type | | | With Type-I 5-HT neurons | | | | | | | | | |
| a | **Punishment** | | | | | **Reward** | | | | |
| **VTA**  **DA**  **\*** | **DRN**  **5-HT**  **\*** | **DRN**  **GABA**  **\*** | **VTA**  **GABA**  **\*** | **VTA**  **Glu**  **\*** | **VTA**  **DA**  **\*** | **DRN**  **5-HT**  **\*** | **DRN**  **GABA**  **\*** | **VTA**  **GABA**  **\*** | **VTA**  **Glu**  **\*** |
| **DA🡪**  **VTA**  **GABA ()** | **5HT🡪**  **DA ()** | **5HT🡪**  **Glu ()** | 100.00 | 45.26 | 11.93 | 2.90 | 0.56 | 100.00 | 41.15 | 16.50 | 7.03 | 0.79 |
| **5HT🡪**  **Glu ()** | 100.00 | 45.70 | 11.92 | 2.94 | 0.56 | 100.00 | 29.12 | 16.54 | 3.65 | 0.74 |
| **5-HT🡪**  **VTA**  **GABA ()** | **5HT🡪**  **DA ()** | **5HT🡪**  **Glu ()** | 100.00 | 45.26 | 11.93 | 2.90 | 0.56 | 100.00 | 28.73 | 16.54 | 3.58 | 0.74 |
| **5HT🡪**  **Glu ()** | 100.00 | 45.70 | 11.92 | 2.94 | 0.56 | 100.00 | 41.39 | 16.73 | 4.13 | 0.75 |
| **DA🡪**  **VTA**  **GABA ()** | **5HT🡪**  **DA ()** | **5HT🡪**  **Glu ()** | 100.00 | 44.26 | 23.12 | 6.20 | 0.56 | 100.00 | 41.01 | 17.31 | 10.10 | 0.79 |
| **5HT🡪**  **Glu ()** | 100.00 | 44.70 | 23.13 | 6.25 | 0.56 | 100.00 | 28.61 | 17.30 | 6.66 | 0.74 |
| **5-HT🡪**  **VTA**  **GABA ()** | **5HT🡪**  **DA ()** | **5HT🡪**  **Glu ()** | 100.00 | 44.26 | 23.12 | 6.20 | 0.56 | 100.00 | 28.21 | 17.29 | 6.60 | 0.74 |
| **5HT🡪**  **Glu ()** | 100.00 | 44.70 | 23.13 | 6.25 | 0.56 | 100.00 | 41.13 | 17.10 | 7.18 | 0.74 |
| b | **5HT🡪Glu ()** | | | 100.00 | 26.68 | 13.37 | 4.32 | 0.53 | 100.00 | 17.99 | 16.29 | 4.61 | 0.70 |
| **5HT🡪Glu ()** | | | 100.00 | 23.94 | 13.48 | 3.64 | 5.23 | 100.00 | 16.42 | 16.42 | 3.86 | 6.90 |
| c | **-** | | | 100.00 | 22.87 | 13.49 | 3.53 | 0.00 | 100.00 | 15.48 | 16.45 | 3.71 | 0.00 |
| d | **-** | | | 100.00 | 25.43 | 5.49 | 2.34 | 0.00 | 100.00 | 17.16 | 5.47 | 2.75 | 0.00 |
| e | **-** | | | 100.00 | 23.20 | 0.69 | 1.86 | 0.00 | 100.00 | 15.74 | 0.95 | 2.21 | 0.00 |
| f | **-** | | | 100.00 | 2.27 | 0.17 | 0.45 | 0.00 | 100.00 | 1.52 | 0.22 | 0.52 | 0.00 |
| g | **-** | | | 100.00 | 0.00 | 12.72 | 0.00 | 0.00 | 100.00 | 0.00 | 13.31 | 0.00 | 0.00 |
| h | **-** | | | 100.00 | 25.43 | 0.87 | 2.34 | 0.00 | 100.00 | 17.16 | 1.18 | 2.75 | 0.00 |
| i | **-** | | | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| j | **-** | | | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| k | **-** | | | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l | **5HT🡪DA ()** | | | 100.00 | 22.78 | 12.34 | 3.13 | 0.52 | 100.00 | 15.55 | 3.89 | 3.86 | 0.69 |
| **5HT🡪DA ()** | | | 100.00 | 22.79 | 12.34 | 3.13 | 0.52 | 100.00 | 15.56 | 3.90 | 3.87 | 0.69 |