|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 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 | 66.19 | 14.26 | 4.36 | 0.60 | 100.00 | 55.31 | 22.04 | 8.72 | 0.83 |
| **5HT🡪**  **Glu ()** | 100.00 | 66.66 | 14.25 | 4.42 | 0.60 | 100.00 | 43.10 | 22.08 | 5.31 | 0.78 |
| **5-HT🡪**  **VTA**  **GABA ()** | **5HT🡪**  **DA ()** | **5HT🡪**  **Glu ()** | 100.00 | 66.19 | 14.26 | 4.36 | 0.60 | 100.00 | 42.69 | 22.08 | 5.25 | 0.77 |
| **5HT🡪**  **Glu ()** | 100.00 | 66.66 | 14.25 | 4.42 | 0.60 | 100.00 | 62.58 | 22.27 | 6.96 | 0.80 |
| **DA🡪**  **VTA**  **GABA ()** | **5HT🡪**  **DA ()** | **5HT🡪**  **Glu ()** | 100.00 | 64.87 | 26.08 | 9.06 | 0.59 | 100.00 | 55.12 | 22.89 | 13.08 | 0.83 |
| **5HT🡪**  **Glu ()** | 100.00 | 65.34 | 26.09 | 9.12 | 0.59 | 100.00 | 42.38 | 22.87 | 9.59 | 0.77 |
| **5-HT🡪**  **VTA**  **GABA ()** | **5HT🡪**  **DA ()** | **5HT🡪**  **Glu ()** | 100.00 | 64.87 | 26.08 | 9.06 | 0.59 | 100.00 | 41.97 | 22.87 | 9.52 | 0.77 |
| **5HT🡪**  **Glu ()** | 100.00 | 65.34 | 26.09 | 9.12 | 0.59 | 100.00 | 62.21 | 22.67 | 11.29 | 0.80 |
| b | **5HT🡪Glu ()** | | | 100.00 | 37.30 | 15.90 | 6.05 | 0.55 | 100.00 | 25.13 | 18.88 | 6.39 | 0.72 |
| **5HT🡪Glu ()** | | | 100.00 | 34.60 | 16.00 | 5.35 | 5.38 | 100.00 | 23.59 | 19.01 | 5.64 | 7.09 |
| c | **-** | | | 100.00 | 33.50 | 16.02 | 5.24 | 0.00 | 100.00 | 22.62 | 19.04 | 5.49 | 0.00 |
| d | **-** | | | 100.00 | 36.11 | 7.78 | 3.36 | 0.00 | 100.00 | 24.33 | 7.77 | 3.88 | 0.00 |
| e | **-** | | | 100.00 | 33.90 | 1.07 | 2.86 | 0.00 | 100.00 | 22.92 | 1.43 | 3.34 | 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 | 18.07 | 0.00 | 0.00 | 100.00 | 0.00 | 18.87 | 0.00 | 0.00 |
| h | **-** | | | 100.00 | 36.12 | 1.25 | 3.36 | 0.00 | 100.00 | 24.33 | 1.67 | 3.88 | 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 | 33.41 | 14.85 | 4.23 | 0.54 | 100.00 | 22.68 | 6.51 | 5.09 | 0.71 |
| **5HT🡪DA ()** | | | 100.00 | 33.42 | 14.85 | 4.24 | 0.54 | 100.00 | 22.70 | 6.52 | 5.10 | 0.71 |