|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 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 | 24.32 | 9.58 | 1.56 | 0.53 | 100.00 | 27.04 | 10.98 | 5.35 | 0.76 |
| **5HT🡪**  **Glu ()** | 100.00 | 24.74 | 9.57 | 1.61 | 0.53 | 100.00 | 15.17 | 11.02 | 2.03 | 0.70 |
| **5-HT🡪**  **VTA**  **GABA ()** | **5HT🡪**  **DA ()** | **5HT🡪**  **Glu ()** | 100.00 | 24.31 | 9.58 | 1.56 | 0.53 | 100.00 | 14.80 | 11.02 | 1.97 | 0.70 |
| **5HT🡪**  **Glu ()** | 100.00 | 24.74 | 9.57 | 1.61 | 0.53 | 100.00 | 20.25 | 11.21 | 1.37 | 0.69 |
| **DA🡪**  **VTA**  **GABA ()** | **5HT🡪**  **DA ()** | **5HT🡪**  **Glu ()** | 100.00 | 23.64 | 20.18 | 3.47 | 0.53 | 100.00 | 26.95 | 11.76 | 7.14 | 0.75 |
| **5HT🡪**  **Glu ()** | 100.00 | 24.06 | 20.19 | 3.52 | 0.53 | 100.00 | 14.87 | 11.74 | 3.79 | 0.70 |
| **5-HT🡪**  **VTA**  **GABA ()** | **5HT🡪**  **DA ()** | **5HT🡪**  **Glu ()** | 100.00 | 23.64 | 20.18 | 3.47 | 0.53 | 100.00 | 14.49 | 11.74 | 3.73 | 0.70 |
| **5HT🡪**  **Glu ()** | 100.00 | 24.06 | 20.19 | 3.52 | 0.53 | 100.00 | 20.10 | 11.56 | 3.16 | 0.69 |
| b | **5HT🡪Glu ()** | | | 100.00 | 16.08 | 10.85 | 2.63 | 0.52 | 100.00 | 10.88 | 13.71 | 2.85 | 0.68 |
| **5HT🡪Glu ()** | | | 100.00 | 13.30 | 10.95 | 1.96 | 5.09 | 100.00 | 9.28 | 13.84 | 2.12 | 6.72 |
| c | **-** | | | 100.00 | 12.26 | 10.97 | 1.86 | 0.00 | 100.00 | 8.36 | 13.86 | 1.97 | 0.00 |
| d | **-** | | | 100.00 | 14.76 | 3.18 | 1.37 | 0.00 | 100.00 | 10.00 | 3.18 | 1.63 | 0.00 |
| e | **-** | | | 100.00 | 12.52 | 0.33 | 0.90 | 0.00 | 100.00 | 8.58 | 0.47 | 1.10 | 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 | 7.39 | 0.00 | 0.00 | 100.00 | 0.00 | 7.77 | 0.00 | 0.00 |
| h | **-** | | | 100.00 | 14.76 | 0.51 | 1.37 | 0.00 | 100.00 | 10.00 | 0.70 | 1.63 | 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 | 12.16 | 9.82 | 2.06 | 0.51 | 100.00 | 8.43 | 3.71 | 2.66 | 0.67 |
| **5HT🡪DA ()** | | | 100.00 | 12.18 | 9.83 | 2.06 | 0.51 | 100.00 | 8.45 | 3.69 | 2.67 | 0.67 |