|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 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 ()** | 1.05 | 3.45 | 6.46 | 0.15 | 0.49 | 1.48 | 8.52 | 3.60 | 2.94 | 0.70 |
| **5HT🡪**  **Glu ()** | 0.82 | 3.06 | 6.45 | 0.11 | 0.49 | 0.92 | 3.44 | 3.64 | 0.23 | 0.65 |
| **5-HT🡪**  **VTA**  **GABA ()** | **5HT🡪**  **DA ()** | **5HT🡪**  **Glu ()** | 2.06 | 3.46 | 6.46 | 0.15 | 0.49 | 2.44 | 3.79 | 3.64 | 0.29 | 0.65 |
| **5HT🡪**  **Glu ()** | 0.82 | 3.06 | 6.45 | 0.11 | 0.49 | 1.10 | 7.98 | 3.83 | 2.36 | 0.61 |
| **DA🡪**  **VTA**  **GABA ()** | **5HT🡪**  **DA ()** | **5HT🡪**  **Glu ()** | 1.00 | 3.69 | 16.30 | 0.10 | 0.49 | 1.55 | 8.51 | 4.33 | 3.02 | 0.70 |
| **5HT🡪**  **Glu ()** | 0.88 | 3.31 | 16.30 | 0.11 | 0.49 | 1.00 | 3.46 | 4.31 | 0.15 | 0.65 |
| **5-HT🡪**  **VTA**  **GABA ()** | **5HT🡪**  **DA ()** | **5HT🡪**  **Glu ()** | 2.11 | 3.70 | 16.29 | 0.10 | 0.49 | 2.51 | 3.82 | 4.31 | 0.21 | 0.65 |
| **5HT🡪**  **Glu ()** | 0.88 | 3.31 | 16.30 | 0.11 | 0.49 | 1.03 | 7.99 | 4.15 | 2.28 | 0.61 |
| b | **5HT🡪Glu ()** | | | 1.28 | 2.03 | 7.51 | 0.36 | 0.50 | 1.58 | 1.39 | 10.27 | 0.42 | 0.66 |
| **5HT🡪Glu ()** | | | 5.01 | 1.32 | 7.61 | 0.28 | 4.90 | 6.19 | 0.77 | 10.40 | 0.30 | 6.46 |
| c | **-** | | | 1.21 | 2.01 | 7.62 | 0.37 | 0.00 | 1.51 | 1.33 | 10.42 | 0.43 | 0.00 |
| d | **-** | | | 1.61 | 0.63 | 0.14 | 0.05 | 0.00 | 2.00 | 0.45 | 0.15 | 0.07 | 0.00 |
| e | **-** | | | 0.35 | 1.89 | 0.15 | 0.40 | 0.00 | 0.42 | 1.23 | 0.19 | 0.45 | 0.00 |
| f | **-** | | | 0.40 | 2.27 | 0.17 | 0.45 | 0.00 | 0.48 | 1.52 | 0.22 | 0.52 | 0.00 |
| g | **-** | | | 0.00 | 0.00 | 0.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.35 | 0.00 | 0.00 |
| h | **-** | | | 0.05 | 0.63 | 0.02 | 0.05 | 0.00 | 0.06 | 0.46 | 0.03 | 0.07 | 0.00 |
| i | **-** | | | 3.12 | 0.00 | 0.00 | 0.00 | 0.00 | 3.87 | 0.00 | 0.00 | 0.00 | 0.00 |
| j | **-** | | | 3.12 | 0.00 | 0.00 | 0.00 | 0.00 | 3.87 | 0.00 | 0.00 | 0.00 | 0.00 |
| k | **-** | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l | **5HT🡪DA ()** | | | 2.17 | 2.06 | 6.50 | 0.98 | 0.49 | 3.07 | 1.20 | 5.94 | 1.50 | 0.64 |
| **5HT🡪DA ()** | | | 0.19 | 2.06 | 6.50 | 0.98 | 0.49 | 0.30 | 1.20 | 5.94 | 1.50 | 0.64 |