|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Genes | Pathway | start | | | | | end |  | targeted\_bp\_area |
| ABAT | GABAergic |  |  | 1.77E+08 | | | 1.77E+08 | | 6170 |
| ADCY1 | Calcium sig | | | 1.46E+09 | | | 1.46E+09 | | 13144 |
| ADCY1 | GABAergic |  |  | 1.46E+09 | | | 1.46E+09 | | 13144 |
| ADCY1 | longterm\_ | | | | | 1.46E+09 | 1.46E+09 | | 13144 |
| ADCY2 | Calcium sig | | | 2.32E+08 | | | 2.32E+08 | | 7882 |
| ADCY2 | GABAergic |  |  | 2.32E+08 | | | 2.32E+08 | | 7882 |
| ADCY3 | Calcium sig | | | 6.01E+08 | | | 6.01E+08 | | 5597 |
| ADCY3 | GABAergic |  |  | 6.01E+08 | | | 6.01E+08 | | 5597 |
| ADCY4 | Calcium sig | | |  |  | 5.7E+08 | 5.7E+08 | | 5143 |
| ADCY4 | GABAergic |  |  |  |  | 5.7E+08 | 5.7E+08 | | 5143 |
| ADCY5 | GABAergic |  |  | 3.32E+09 | | | 3.32E+09 | | 7348 |
| ADCY5 | Dopaminer | | | | 3.32E+09 | | 3.32E+09 | | 7348 |
| ADCY5 | seratonerg |  |  | 3.32E+09 | | | 3.32E+09 | | 7348 |
| ADCY6 | GABAergic |  |  | 1.38E+09 | | | 1.38E+09 | | 8073 |
| ADCY7 | GABAergic |  |  | 1.66E+09 | | | 1.66E+09 | | 7615 |
| ADCY7 | Calcium sig | | | 1.66E+09 | | | 1.66E+09 | | 7615 |
| ADCY8 | Calcium sig | | | 3.17E+09 | | | 3.17E+09 | | 5596 |
| ADCY8 | GABAergic |  |  | 3.17E+09 | | | 3.17E+09 | | 5596 |
| ADCY8 | longterm\_ | | | | | 3.17E+09 | 3.17E+09 | | 5596 |
| ADCY9 | Calcium sig | | 60895274 | | | | 60899844 | | 4570 |
| ADCY9 | GABAergic | 60895274 | | | | | 60899844 | | 4570 |
| ADH1A | drug\_meta | | |  |  | 1E+09 |  | 1E+09 | 1703 |
| ADH1B | drug\_meta | | |  |  | 1.2E+09 | 1.2E+09 | | 2680 |
| ADH1C | drug\_meta | | |  |  | 1E+09 |  | 1E+09 | 1257 |
| ADH4 | drug\_meta | | |  |  | 1.1E+09 | 1.1E+09 | | 2309 |
| ADH5 | drug\_meta | | |  |  | 1.7E+09 | 1.7E+09 | | 2455 |
| ADH6 | drug\_meta | | |  |  | 1.1E+09 | 1.1E+09 | | 3248 |
| ADH7 | drug\_meta | | |  |  | 1.1E+09 | 1.1E+09 | | 3060 |
| ADORA2A | Calcium sig | | | 1.49E+08 | | | 1.49E+08 | | 2331 |
| ADORA2B | Calcium sig | | 95209897 | | | | 95211541 | | 1644 |
| ADRA1A | Calcium sig | | |  |  | 2.4E+08 | 2.4E+08 | | 3413 |
| ADRA1A | Adrenergic |  |  |  |  | 2.4E+08 | 2.4E+08 | | 3413 |
| ADRA1B | Adrenergic |  |  | 3.19E+08 | | | 3.19E+08 | | 1780 |
| ADRA1B | Calcium sig | | | 3.19E+08 | | | 3.19E+08 | | 1780 |
| ADRA1D | Calcium sig | | 25320258 | | | | 25322733 | | 2475 |
| ADRA1D | Adrenergic | 25320258 | | | | | 25322733 | | 2475 |
| ADRB1 | Calcium sig | | | 6.95E+08 | | | 6.95E+08 | | 2653 |
| ADRB1 | Adrenergic |  |  | 6.95E+08 | | | 6.95E+08 | | 2653 |
| ADRB2 | Calcium sig | | | 7.41E+08 | | | 7.41E+08 | | 1855 |
| ADRB2 | Adrenergic |  |  | 7.41E+08 | | | 7.41E+08 | | 1855 |
| ADRB3 | Calcium sig | | | 3.03E+08 | | | 3.03E+08 | | 2760 |
| AGTR1 | Calcium sig | | | 4.45E+08 | | | 4.45E+08 | | 1974 |
| AKT1 | MAPK path |  |  | 1.68E+09 | | | 1.68E+09 | | 4493 |
| AKT1 | Dopaminer | | | | 1.68E+09 | | 1.68E+09 | | 4493 |
| AKT2 | MAPK path |  |  | 7.74E+08 | | | 7.74E+08 | | 5760 |
| AKT2 | Dopaminer | | | | 7.74E+08 | | 7.74E+08 | | 5760 |
| AKT3 | MAPK path |  |  | 4.14E+09 | | | 4.14E+09 | | 6236 |
| AKT3 | Dopaminer | | | | 4.14E+09 | | 4.14E+09 | | 6236 |
| ALDH1A3 | drug\_meta | | | 1.83E+09 | | | 1.83E+09 | | 4634 |

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| ALDH3A1 | drug\_meta | | | 2.36E+08 | | | | 2.36E+08 | 3167 |
| ALDH3B1 | drug\_meta | | |  |  |  | 6.1E+08 | 6.1E+08 | 2136 |
| ALDH3B2 | drug\_meta | | | 6.74E+08 | | | | 6.74E+08 | 2589 |
| ALOX12 | seratonerg | 82876627 | | | | | | 82879810 | 3183 |
| ALOX12B | seratonerg | 95784665 | | | | | | 95788147 | 3482 |
| ALOX15 | seratonerg | 77166224 | | | | | | 77169324 | 3100 |
| ALOX15B | seratonerg |  |  | 1.27E+08 | | | | 1.27E+08 | 3395 |
| ALOX5 | seratonerg |  |  | 6.89E+08 | | | | 6.89E+08 | 3034 |
| AOX1 | drug\_meta | | | 8.06E+09 | | | | 8.06E+09 | 7665 |
| APP | seratonerg |  |  | 5.75E+08 | | | | 5.75E+08 | 4723 |
| ARAF | seratonerg |  |  | 7.11E+08 | | | | 7.11E+08 | 4075 |
| ARAF | longterm\_ | | | | | 7.11E+08 | | 7.11E+08 | 4075 |
| ARNTL | Dopaminer | | | | 2.41E+08 | | | 2.41E+08 | 3845 |
| ARRB1 | MAPK path |  |  | 1.35E+09 | | | | 1.35E+09 | 5195 |
| ARRB2 | MAPK path | 60074277 | | | | | | 60077259 | 2982 |
| ARRB2 | Dopaminer 60074277 | | | | | | | 60077259 | 2982 |
| ATF2 | MAPK path |  |  | 3.17E+09 | | | | 3.17E+09 | 4997 |
| ATF2 | Dopaminer | | | | 3.17E+09 | | | 3.17E+09 | 4997 |
| ATF4 | MAPK path |  |  | 3.19E+08 | | | | 3.19E+08 | 1465 |
| ATF4 | Dopaminer | | | | 3.19E+08 | | | 3.19E+08 | 1465 |
| ATF4 | longterm\_ | | | | | 3.19E+08 | | 3.19E+08 | 1465 |
| ATF6B | Dopaminer | | | | 5.46E+08 | | | 5.46E+08 | 4094 |
| ATP2A1 | Calcium sig | | | 6.07E+08 | | | | 6.07E+08 | 5266 |
| ATP2A2 | Calcium sig | | | 2.88E+09 | | | | 2.88E+09 | 6355 |
| ATP2A3 | Calcium sig | | 88412970 | | | | | 88418036 | 5066 |
| ATP2B1 | Calcium sig | | | 2.34E+09 | | | | 2.34E+09 | 7547 |
| ATP2B2 | Calcium sig | | | 3.64E+08 | | | | 3.64E+08 | 9907 |
| ATP2B3 | Calcium sig | | | 3.97E+09 | | | | 3.97E+09 | 7478 |
| ATP2B4 | Calcium sig | | | 6.52E+09 | | | | 6.52E+09 | 9338 |
| AVPR1A | Calcium sig | | | 3.18E+08 | | | | 3.18E+08 | 1793 |
| AVPR1B | Calcium sig | | | 1.03E+09 | | | | 1.03E+09 | 2051 |
| BDKRB1 | Calcium sig | | |  |  |  | 2.9E+08 | 2.9E+08 | 1281 |
| BDKRB2 | Calcium sig | | | 1.16E+09 | | | | 1.16E+09 | 3929 |
| BDNF | MAPK path |  |  | 4.71E+08 | | | | 4.71E+08 | 6252 |
| BRAF | MAPK path |  |  | 3.23E+09 | | | | 3.23E+09 | 3555 |
| BRAF | seratonerg |  |  | 3.23E+09 | | | | 3.23E+09 | 3555 |
| BRAF | longterm\_ | | | | | 3.23E+09 | | 3.23E+09 | 3555 |
| CACNA1A | Calcium sig | | |  |  |  | 7.1E+08 | 7.1E+08 | 10763 |
| CACNA1A | MAPK path |  |  |  |  |  | 7.1E+08 | 7.1E+08 | 10763 |
| CACNA1A | GABAergic |  |  |  |  |  | 7.1E+08 | 7.1E+08 | 10763 |
| CACNA1A | Dopaminer | | | | | | 7.1E+08 | 7.1E+08 | 10763 |
| CACNA1A | seratonerg |  |  |  |  |  | 7.1E+08 | 7.1E+08 | 10763 |
| CACNA1B | seratonerg |  |  | 7.89E+09 | | | | 7.89E+09 | 12283 |
| CACNA1B | Calcium sig | | | 7.89E+09 | | | | 7.89E+09 | 12283 |
| CACNA1B | MAPK path |  |  | 7.89E+09 | | | | 7.89E+09 | 12283 |
| CACNA1B | GABAergic |  |  | 7.89E+09 | | | | 7.89E+09 | 12283 |
| CACNA1B | Dopaminer | | | | 7.89E+09 | | | 7.89E+09 | 12283 |
| CACNA1C | Calcium sig | | | 1.69E+08 | | | | 1.69E+08 | 12541 |
| CACNA1C | MAPK path |  |  | 1.69E+08 | | | | 1.69E+08 | 12541 |
| CACNA1C | GABAergic |  |  | 1.69E+08 | | | | 1.69E+08 | 12541 |

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| CACNA1C | Dopaminer | | | | 1.69E+08 | | | 1.69E+08 | 12541 |
| CACNA1C | seratonerg |  |  | 1.69E+08 | | | | 1.69E+08 | 12541 |
| CACNA1C | longterm\_ | | | | | 1.69E+08 | | 1.69E+08 | 12541 |
| CACNA1D | Calcium sig | | |  |  |  | 2.9E+09 | 2.9E+09 | 11667 |
| CACNA1D | MAPK path |  |  |  |  |  | 2.9E+09 | 2.9E+09 | 11667 |
| CACNA1D | seratonerg |  |  |  |  |  | 2.9E+09 | 2.9E+09 | 11667 |
| CACNA1D | GABAergic |  |  |  |  |  | 2.9E+09 | 2.9E+09 | 11667 |
| CACNA1D | Dopaminer | | | | | | 2.9E+09 | 2.9E+09 | 11667 |
| CACNA1E | Calcium sig | | | 1.18E+10 | | | | 1.18E+10 | 19001 |
| CACNA1E | MAPK path |  |  | 1.18E+10 | | | | 1.18E+10 | 19001 |
| CACNA1F | Calcium sig | | | 2.21E+09 | | | | 2.21E+09 | 9581 |
| CACNA1F | MAPK path |  |  | 2.21E+09 | | | | 2.21E+09 | 9581 |
| CACNA1F | GABAergic |  |  | 2.21E+09 | | | | 2.21E+09 | 9581 |
| CACNA1F | seratonerg |  |  | 2.21E+09 | | | | 2.21E+09 | 9581 |
| CACNA1G | Calcium sig | | | 2.24E+09 | | | | 2.24E+09 | 10763 |
| CACNA1G | MAPK path |  |  | 2.24E+09 | | | | 2.24E+09 | 10763 |
| CACNA1H | Calcium sig | | 51523805 | | | | | 51533577 | 9772 |
| CACNA1H | MAPK path | 51523805 | | | | | | 51533577 | 9772 |
| CACNA1I | Calcium sig | | | 1.88E+09 | | | | 1.88E+09 | 11773 |
| CACNA1I | MAPK path |  |  | 1.88E+09 | | | | 1.88E+09 | 11773 |
| CACNA1S | seratonerg |  |  | 9.85E+09 | | | | 9.85E+09 | 9132 |
| CACNA1S | Calcium sig | | | 9.85E+09 | | | | 9.85E+09 | 9132 |
| CACNA1S | MAPK path |  |  | 9.85E+09 | | | | 9.85E+09 | 9132 |
| CACNA1S | GABAergic |  |  | 9.85E+09 | | | | 9.85E+09 | 9132 |
| CACNA2D1 | MAPK path |  |  | 3.27E+09 | | | | 3.27E+09 | 7557 |
| CACNA2D2 | MAPK path |  |  | 1.61E+09 | | | | 1.61E+09 | 8713 |
| CACNA2D3 | MAPK path |  |  | 2.08E+09 | | | | 2.08E+09 | 7528 |
| CACNA2D4 | MAPK path | 78484760 | | | | | | 78494096 | 9336 |
| CACNB1 | MAPK path |  |  | 7.09E+08 | | | | 7.09E+08 | 4800 |
| CACNB2 | MAPK path |  |  | 4.49E+08 | | | | 4.49E+08 | 6625 |
| CACNB3 | MAPK path |  |  | 9.35E+08 | | | | 9.35E+08 | 4310 |
| CACNB4 | MAPK path |  |  | 3.82E+09 | | | | 3.82E+09 | 9737 |
| CACNG1 | MAPK path |  |  |  |  |  | 2.6E+08 | 2.6E+08 | 907 |
| CACNG2 | MAPK path |  |  | 2.59E+08 | | | | 2.59E+08 | 1345 |
| CACNG3 | MAPK path |  |  | 1.95E+08 | | | | 1.95E+08 | 3165 |
| CACNG4 | MAPK path |  |  | 3.25E+08 | | | | 3.25E+08 | 1745 |
| CACNG5 | MAPK path |  |  | 3.89E+08 | | | | 3.89E+08 | 1380 |
| CACNG6 | MAPK path |  |  | 3.27E+08 | | | | 3.27E+08 | 1833 |
| CACNG7 | MAPK path |  |  | 4.35E+08 | | | | 4.35E+08 | 2786 |
| CACNG8 | MAPK path |  |  |  |  |  | 1.2E+09 | 1.2E+09 | 7002 |
| CALM1 | Calcium sig | | | 1.27E+09 | | | | 1.27E+09 | 4656 |
| CALM1 | Dopaminer | | | | 1.27E+09 | | | 1.27E+09 | 4656 |
| CALM1 | longterm\_ | | | | | 1.27E+09 | | 1.27E+09 | 4656 |
| CALM2 | Calcium sig | | | 4.27E+08 | | | | 4.27E+08 | 1432 |
| CALM2 | Dopaminer | | | | 4.27E+08 | | | 4.27E+08 | 1432 |
| CALM2 | longterm\_ | | | | | 4.27E+08 | | 4.27E+08 | 1432 |
| CALM3 | Calcium sig | | |  |  |  | 3.3E+08 | 3.3E+08 | 2532 |
| CALM3 | Dopaminer | | | | | | 3.3E+08 | 3.3E+08 | 2532 |
| CALM3 | longterm\_ | | | | | | 3.3E+08 | 3.3E+08 | 2532 |
| CALML3 | longterm\_ 22268892 | | | | | | | 22270173 | 1281 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CALML3 | Calcium sig | | 22268892 | | | | | | 22270173 | 1281 |
| CALML3 | Dopaminer 22268892 | | | | | | | | 22270173 | 1281 |
| CALML5 | Calcium sig | | 11081615 | | | | | | 11082429 | 814 |
| CALML5 | Dopaminer 11081615 | | | | | | | | 11082429 | 814 |
| CALML5 | longterm\_ 11081615 | | | | | | | | 11082429 | 814 |
| CALML6 | Calcium sig | | |  |  |  |  | 9236397 | 9238060 | 1663 |
| CALML6 | Dopaminer | | | | | | | 9236397 | 9238060 | 1663 |
| CALML6 | longterm\_ | | | | | | | 9236397 | 9238060 | 1663 |
| CALY | Dopaminer | | | | | 5.41E+08 | | | 5.41E+08 | 1352 |
| CAMK2A | Calcium sig | | |  | 3.89E+09 | | | | 3.89E+09 | 7127 |
| CAMK2A | Dopaminer | | | | | 3.89E+09 | | | 3.89E+09 | 7127 |
| CAMK2A | longterm\_ | | | | | | 3.89E+09 | | 3.89E+09 | 7127 |
| CAMK2B | longterm\_ | | | | | | 1.02E+09 | | 1.02E+09 | 4438 |
| CAMK2B | Calcium sig | | |  | 1.02E+09 | | | | 1.02E+09 | 4438 |
| CAMK2B | Dopaminer | | | | | 1.02E+09 | | | 1.02E+09 | 4438 |
| CAMK2D | longterm\_ | | | | | | | 3.2E+09 | 3.2E+09 | 7415 |
| CAMK2D | Calcium sig | | |  |  |  |  | 3.2E+09 | 3.2E+09 | 7415 |
| CAMK2D | Dopaminer | | | | | | | 3.2E+09 | 3.2E+09 | 7415 |
| CAMK2G | Calcium sig | | |  | 1.74E+09 | | | | 1.74E+09 | 4450 |
| CAMK2G | Dopaminer | | | | | 1.74E+09 | | | 1.74E+09 | 4450 |
| CAMK2G | longterm\_ | | | | | | 1.74E+09 | | 1.74E+09 | 4450 |
| CAMK4 | Calcium sig | | |  | 1.77E+09 | | | | 1.77E+09 | 3078 |
| CAMK4 | longterm\_ | | | | | | 1.77E+09 | | 1.77E+09 | 3078 |
| CASP3 | MAPK path |  |  |  | 2.41E+09 | | | | 2.41E+09 | 2847 |
| CASP3 | seratonerg |  |  |  | 2.41E+09 | | | | 2.41E+09 | 2847 |
| CCKAR | Calcium sig | | |  | 1.85E+08 | | | | 1.85E+08 | 1872 |
| CCKBR | Calcium sig | | 50312791 | | | | | | 50315446 | 2655 |
| CD14 | MAPK path |  |  |  |  |  |  | 5.6E+08 | 5.6E+08 | 1922 |
| CD38 | Calcium sig | | |  | 1.74E+08 | | | | 1.74E+08 | 2385 |
| CDA | drug\_meta | | |  | 1.26E+08 | | | | 1.26E+08 | 1212 |
| CDC25B | MAPK path | 60497547 | | | | | | | 60502056 | 4509 |
| CDC42 | MAPK path |  |  |  | 3.14E+08 | | | | 3.14E+08 | 2512 |
| CES1 | drug\_meta | | |  | 8.94E+08 | | | | 8.94E+08 | 2279 |
| CES2 | drug\_meta | | |  | 1.14E+09 | | | | 1.14E+09 | 3705 |
| CHRM1 | Calcium sig | | |  | 3.13E+08 | | | | 3.13E+08 | 2512 |
| CHRM2 | Calcium sig | | |  |  |  |  | 4.1E+08 | 4.1E+08 | 2354 |
| CHRM3 | Calcium sig | | |  |  |  |  | 7.2E+08 | 7.2E+08 | 2344 |
| CHRM5 | Calcium sig | | |  | 1.03E+08 | | | | 1.03E+08 | 2376 |
| CHRNA7 | Calcium sig | | |  | 6.16E+08 | | | | 6.16E+08 | 3783 |
| CHUK | MAPK path |  |  |  | 2.55E+09 | | | | 2.55E+09 | 5820 |
| CLOCK | Dopaminer | | | | | 1.35E+09 | | | 1.35E+09 | 6606 |
| COMT | Dopaminer | | | | | | | 1.2E+08 | 1.2E+08 | 2324 |
| CREB1 | Dopaminer | | | | | 3.34E+09 | | | 3.34E+09 | 7656 |
| CREB3 | Dopaminer | | | | | 1.79E+08 | | | 1.79E+08 | 2302 |
| CREB3L1 | Dopaminer | | | | | 6.49E+08 | | | 6.49E+08 | 3266 |
| CREB3L2 | Dopaminer | | | | | 2.89E+09 | | | 2.89E+09 | 8058 |
| CREB3L3 | Dopaminer 49963603 | | | | | | | | 49965967 | 2364 |
| CREB3L4 | Dopaminer | | | | | 1.23E+09 | | | 1.23E+09 | 2172 |
| CREB5 | Dopaminer | | | | | 7.48E+08 | | | 7.48E+08 | 9374 |
| CREBBP | longterm\_ | | | | | | 1.79E+08 | | 1.79E+08 | 11996 |

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| CRK | MAPK path | 10701612 | | | | | 10705215 | 3603 |
| CRKL | MAPK path |  |  | 2.56E+08 | | | 2.56E+08 | 5092 |
| CYP1A2 | drug\_meta | | |  |  | 6E+08 | 6E+08 | 1971 |
| CYP2A6 | drug\_meta | | | 4.55E+08 | | | 4.55E+08 | 1269 |
| CYP2A6 | drug\_meta | | | 4.55E+08 | | | 4.55E+08 | 1269 |
| CYP2B6 | drug\_meta | | | 4.15E+08 | | | 4.15E+08 | 1456 |
| CYP2C18 | seratonerg |  |  | 1.16E+09 | | | 1.16E+09 | 2080 |
| CYP2C19 | drug\_meta | | | 1.06E+09 | | | 1.06E+09 | 1400 |
| CYP2C19 | seratonerg |  |  | 1.06E+09 | | | 1.06E+09 | 1400 |
| CYP2C8 | drug\_meta | | | 1.16E+09 | | | 1.16E+09 | 2010 |
| CYP2C8 | seratonerg |  |  | 1.16E+09 | | | 1.16E+09 | 2010 |
| CYP2C9 | drug\_meta | | | 1.06E+09 | | | 1.06E+09 | 1638 |
| CYP2C9 | seratonerg |  |  | 1.06E+09 | | | 1.06E+09 | 1638 |
| CYP2D6 | drug\_meta | | |  |  | 6.8E+08 | 6.8E+08 | 2047 |
| CYP2D6 | seratonerg |  |  |  |  | 6.8E+08 | 6.8E+08 | 2047 |
| CYP2E1 | drug\_meta | | | 1.62E+09 | | | 1.62E+09 | 2310 |
| CYP2J2 | seratonerg |  |  | 7.24E+08 | | | 7.24E+08 | 2302 |
| CYP3A4 | drug\_meta | | | 1.69E+09 | | | 1.69E+09 | 2179 |
| CYP3A4 | drug\_meta | | | 1.69E+09 | | | 1.69E+09 | 2179 |
| CYP3A5 | drug\_meta | | | 1.89E+09 | | | 1.89E+09 | 3035 |
| CYP4X1 | seratonerg |  |  | 6.65E+08 | | | 6.65E+08 | 3047 |
| CYSLTR1 | Calcium sig | | 77528173 | | | | 77529310 | 1137 |
| CYSLTR2 | Calcium sig | | | 1.48E+08 | | | 1.48E+08 | 2430 |
| DAXX | MAPK path |  |  |  |  | 3E+08 | 3E+08 | 3051 |
| DDC | Dopaminer | | | | | 8.6E+08 | 8.6E+08 | 3196 |
| DDC | seratonerg |  |  |  |  | 8.6E+08 | 8.6E+08 | 3196 |
| DDIT3 | MAPK path |  |  | 2.32E+08 | | | 2.32E+08 | 1729 |
| DPYD | drug\_meta | | | 2.65E+09 | | | 2.65E+09 | 6551 |
| DPYS | drug\_meta | | | 1.27E+09 | | | 1.27E+09 | 2515 |
| DRD1 | Calcium sig | | | 1.22E+09 | | | 1.22E+09 | 2188 |
| DRD1 | Dopaminer | | | | 1.22E+09 | | 1.22E+09 | 2188 |
| DRD2 | Dopaminer | | | | 1.13E+09 | | 1.13E+09 | 2606 |
| DRD3 | Dopaminer | | | | 6.83E+08 | | 6.83E+08 | 1668 |
| DRD4 | Dopaminer | | | | | 3196123 | 3197582 | 1459 |
| DRD5 | Calcium sig | | 88058860 | | | | 88060868 | 2008 |
| DRD5 | Dopaminer 88058860 | | | | | | 88060868 | 2008 |
| DUSP1 | MAPK path |  |  | 1.55E+09 | | | 1.55E+09 | 2037 |
| DUSP1 | seratonerg |  |  | 1.55E+09 | | | 1.55E+09 | 2037 |
| DUSP10 | MAPK path |  |  | 1.33E+09 | | | 1.33E+09 | 2571 |
| DUSP16 | MAPK path |  |  | 1.14E+08 | | | 1.14E+08 | 3372 |
| DUSP2 | MAPK path |  |  | 3.87E+08 | | | 3.87E+08 | 1951 |
| DUSP3 | MAPK path |  |  | 1.67E+08 | | | 1.67E+08 | 716 |
| DUSP4 | MAPK path |  |  | 4.67E+08 | | | 4.67E+08 | 5987 |
| DUSP5 | MAPK path |  |  | 8.98E+08 | | | 8.98E+08 | 2308 |
| DUSP6 | MAPK path |  |  | 5.38E+08 | | | 5.38E+08 | 3613 |
| DUSP7 | MAPK path |  |  | 5.73E+08 | | | 5.73E+08 | 2940 |
| DUSP8 | MAPK path | 36323998 | | | | | 36327455 | 3457 |
| DUSP9 | MAPK path |  |  | 9.17E+08 | | | 9.17E+08 | 2300 |
| ECSIT | MAPK path | 81360604 | | | | | 81362447 | 1843 |
| EDNRA | Calcium sig | | | 1.48E+09 | | | 1.48E+09 | 3935 |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| EDNRB | Calcium sig | | 1.33E+09 | | | 1.33E+09 | 4862 |
| EGF | MAPK path |  | 3.11E+09 | | | 3.11E+09 | 5942 |
| EGFR | Calcium sig | | 1.93E+09 | | | 1.93E+09 | 8879 |
| EGFR | MAPK path |  | 1.93E+09 | | | 1.93E+09 | 8879 |
| ELK1 | MAPK path |  |  |  | 5.7E+08 | 5.7E+08 | 2205 |
| ELK4 | MAPK path |  | 3.91E+09 | | | 3.91E+09 | 10365 |
| EP300 | longterm\_ | | | | 1.66E+09 | 1.66E+09 | 10487 |
| ERBB2 | Calcium sig | | 9.47E+08 | | | 9.47E+08 | 5611 |
| ERBB3 | Calcium sig | | 1.53E+09 | | | 1.53E+09 | 8193 |
| ERBB4 | Calcium sig | | 7.65E+09 | | | 7.65E+09 | 13562 |
| F2R | Calcium sig | | 5.32E+08 | | | 5.32E+08 | 3506 |
| FAS | MAPK path |  | 1.18E+09 | | | 1.18E+09 | 3150 |
| FASLG | MAPK path |  | 1.38E+09 | | | 1.38E+09 | 1950 |
| FGF1 | MAPK path |  | 9.94E+08 | | | 9.94E+08 | 3670 |
| FGF10 | MAPK path |  | 1.33E+08 | | | 1.33E+08 | 909 |
| FGF11 | MAPK path | 73456644 | | | | 73459566 | 2922 |
| FGF12 | MAPK path |  |  |  | 2.3E+09 | 2.3E+09 | 3894 |
| FGF13 | MAPK path |  | 1.79E+09 | | | 1.79E+09 | 3307 |
| FGF14 | MAPK path |  | 6.15E+08 | | | 6.15E+08 | 1353 |
| FGF16 | MAPK path |  | 1.53E+08 | | | 1.53E+08 | 504 |
| FGF17 | MAPK path |  | 1.31E+08 | | | 1.31E+08 | 1838 |
| FGF18 | MAPK path |  | 1.54E+09 | | | 1.54E+09 | 2239 |
| FGF19 | MAPK path |  | 4.17E+08 | | | 4.17E+08 | 2237 |
| FGF2 | MAPK path |  | 1.73E+09 | | | 1.73E+09 | 6012 |
| FGF20 | MAPK path | 84271941 | | | | 84273563 | 1622 |
| FGF21 | MAPK path |  | 1.48E+08 | | | 1.48E+08 | 712 |
| FGF22 | MAPK path |  |  |  | 1283160 | 1283695 | 535 |
| FGF23 | MAPK path | 44806819 | | | | 44809921 | 3102 |
| FGF3 | MAPK path |  | 2.79E+08 | | | 2.79E+08 | 1119 |
| FGF4 | MAPK path |  | 3.48E+08 | | | 3.48E+08 | 1144 |
| FGF5 | MAPK path |  | 9.74E+08 | | | 9.74E+08 | 4641 |
| FGF6 | MAPK path | 13650929 | | | | 13651810 | 881 |
| FGF7 | MAPK path |  | 1.49E+08 | | | 1.49E+08 | 668 |
| FGF8 | MAPK path |  | 7.25E+08 | | | 7.25E+08 | 1250 |
| FGF9 | MAPK path |  | 2.23E+08 | | | 2.23E+08 | 4058 |
| FGFR1 | MAPK path |  | 8.42E+08 | | | 8.42E+08 | 6413 |
| FGFR2 | MAPK path |  | 3.08E+09 | | | 3.08E+09 | 5932 |
| FGFR3 | MAPK path | 41526182 | | | | 41531701 | 5519 |
| FGFR4 | MAPK path |  | 1.94E+09 | | | 1.94E+09 | 4367 |
| FLNA | MAPK path |  | 4.15E+09 | | | 4.15E+09 | 11437 |
| FLNB | MAPK path |  | 3.25E+09 | | | 3.25E+09 | 12013 |
| FLNC | MAPK path |  | 5.27E+09 | | | 5.27E+09 | 11801 |
| FMO1 | drug\_meta | | 2.05E+09 | | | 2.05E+09 | 2328 |
| FMO2 | drug\_meta | | 2.57E+09 | | | 2.57E+09 | 3904 |
| FMO3 | drug\_meta | | 2.05E+09 | | | 2.05E+09 | 2305 |
| FMO4 | drug\_meta | | 1.88E+09 | | | 1.88E+09 | 2205 |
| FMO5 | drug\_meta | | 2.05E+09 | | | 2.05E+09 | 3156 |
| FOS | MAPK path |  | 4.54E+08 | | | 4.54E+08 | 2347 |
| FOS | Dopaminer | | | 4.54E+08 | | 4.54E+08 | 2347 |
| GABARAP | GABAergic | 50012366 | | | | 50013806 | 1440 |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| GABARAPL | GABAergic |  |  | 1.24E+08 | | 1.24E+08 | 2262 |
| GABARAPL | GABAergic |  |  | 3.78E+08 | | 3.78E+08 | 1258 |
| GABBR1 | GABAergic |  |  |  | 7.4E+08 | 7.4E+08 | 6071 |
| GABBR2 | GABAergic |  |  | 2.93E+09 | | 2.93E+09 | 6804 |
| GABRA1 | GABAergic |  |  |  | 2.1E+09 | 2.1E+09 | 4637 |
| GABRA2 | GABAergic |  |  | 5.56E+08 | | 5.56E+08 | 3482 |
| GABRA3 | GABAergic |  |  | 1.82E+09 | | 1.82E+09 | 3221 |
| GABRA4 | GABAergic |  |  | 9.39E+08 | | 9.39E+08 | 11578 |
| GABRA5 | GABAergic |  |  | 2.44E+08 | | 2.44E+08 | 2963 |
| GABRA6 | GABAergic |  |  | 1.61E+09 | | 1.61E+09 | 2839 |
| GABRB1 | GABAergic |  |  |  | 5.2E+08 | 5.2E+08 | 2769 |
| GABRB1 | seratonerg |  |  |  | 5.2E+08 | 5.2E+08 | 2769 |
| GABRB2 | GABAergic |  |  | 2.73E+09 | | 2.73E+09 | 7744 |
| GABRB2 | seratonerg |  |  | 2.73E+09 | | 2.73E+09 | 7744 |
| GABRB3 | GABAergic |  |  |  | 4.3E+08 | 4.3E+08 | 6565 |
| GABRB3 | seratonerg |  |  |  | 4.3E+08 | 4.3E+08 | 6565 |
| GABRD | GABAergic | 17627191 | | | | 17629469 | 2278 |
| GABRE | GABAergic |  |  | 1.51E+09 | | 1.51E+09 | 3953 |
| GABRG1 | GABAergic |  |  | 6.91E+08 | | 6.91E+08 | 7064 |
| GABRG2 | GABAergic |  |  | 2.75E+09 | | 2.75E+09 | 4421 |
| GABRG3 | GABAergic |  |  | 3.86E+08 | | 3.86E+08 | 2908 |
| GABRP | GABAergic |  |  | 1.87E+09 | | 1.87E+09 | 3496 |
| GABRQ | GABAergic |  |  | 1.67E+09 | | 1.67E+09 | 2500 |
| GABRR1 | GABAergic |  |  | 1.44E+09 | | 1.44E+09 | 3569 |
| GABRR2 | GABAergic |  |  |  | 9.9E+08 | 9.9E+08 | 2190 |
| GABRR3 | GABAergic |  |  |  | 8.8E+08 | 8.8E+08 | 1800 |
| GAD1 | GABAergic |  |  | 3.43E+09 | | 3.43E+09 | 4774 |
| GAD2 | GABAergic |  |  | 4.78E+08 | | 4.78E+08 | 4427 |
| GADD45A | MAPK path |  |  | 4.09E+08 | | 4.09E+08 | 1599 |
| GADD45B | MAPK path |  |  |  | 7430763 | 7431459 | 696 |
| GADD45G | MAPK path |  |  | 3.69E+08 | | 3.69E+08 | 1273 |
| GLS | GABAergic |  |  | 4.79E+09 | | 4.79E+09 | 8341 |
| GLS2 | GABAergic |  |  | 9.67E+08 | | 9.67E+08 | 4182 |
| GLUL | GABAergic |  |  | 2.55E+09 | | 2.55E+09 | 3774 |
| GMPS | drug\_meta | | | 2.65E+09 | | 2.65E+09 | 2894 |
| GNA11 | Calcium sig | | 28026293 | | | 28027632 | 1339 |
| GNA12 | MAPK path | 36412431 | | | | 36416715 | 4284 |
| GNA14 | Calcium sig | | | 9.61E+08 | | 9.61E+08 | 2776 |
| GNA15 | Calcium sig | | 22063178 | | | 22064566 | 1388 |
| GNAI1 | GABAergic |  |  | 7.98E+08 | | 7.98E+08 | 3513 |
| GNAI1 | Dopaminer | | | | 7.98E+08 | 7.98E+08 | 3513 |
| GNAI1 | seratonerg |  |  | 7.98E+08 | | 7.98E+08 | 3513 |
| GNAI2 | GABAergic |  |  | 5.53E+08 | | 5.53E+08 | 2182 |
| GNAI2 | Dopaminer | | | | 5.53E+08 | 5.53E+08 | 2182 |
| GNAI2 | seratonerg |  |  | 5.53E+08 | | 5.53E+08 | 2182 |
| GNAI3 | GABAergic |  |  | 8.81E+08 | | 8.81E+08 | 1702 |
| GNAI3 | Dopaminer | | | | 8.81E+08 | 8.81E+08 | 1702 |
| GNAI3 | seratonerg |  |  | 8.81E+08 | | 8.81E+08 | 1702 |
| GNAL | Calcium sig | | | 3.43E+08 | | 3.43E+08 | 6324 |
| GNAL | Dopaminer | | | | 3.43E+08 | 3.43E+08 | 6324 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| GNAO1 | GABAergic |  | 7.89E+08 | | | | 7.89E+08 | 2822 |
| GNAO1 | Dopaminer | | | 7.89E+08 | | | 7.89E+08 | 2822 |
| GNAO1 | seratonerg |  | 7.89E+08 | | | | 7.89E+08 | 2822 |
| GNAQ | Calcium sig | | 9.65E+08 | | | | 9.65E+08 | 1657 |
| GNAQ | Dopaminer | | | 9.65E+08 | | | 9.65E+08 | 1657 |
| GNAQ | seratonerg |  | 9.65E+08 | | | | 9.65E+08 | 1657 |
| GNAQ | longterm\_ | | | | 9.65E+08 | | 9.65E+08 | 1657 |
| GNAS | seratonerg |  | 9.77E+08 | | | | 9.77E+08 | 5551 |
| GNAS | Calcium sig | | 9.77E+08 | | | | 9.77E+08 | 5551 |
| GNAS | Dopaminer | | | 9.77E+08 | | | 9.77E+08 | 5551 |
| GNB1 | GABAergic | 17330606 | | | | | 17332784 | 2178 |
| GNB1 | Dopaminer 17330606 | | | | | | 17332784 | 2178 |
| GNB1 | seratonerg | 17330606 | | | | | 17332784 | 2178 |
| GNB2 | GABAergic |  | 9.02E+08 | | | | 9.02E+08 | 2146 |
| GNB2 | Dopaminer | | | 9.02E+08 | | | 9.02E+08 | 2146 |
| GNB2 | seratonerg |  | 9.02E+08 | | | | 9.02E+08 | 2146 |
| GNB3 | GABAergic | 48672427 | | | | | 48675082 | 2655 |
| GNB3 | Dopaminer 48672427 | | | | | | 48675082 | 2655 |
| GNB3 | seratonerg | 48672427 | | | | | 48675082 | 2655 |
| GNB4 | GABAergic |  | 1.61E+09 | | | | 1.61E+09 | 3208 |
| GNB4 | Dopaminer | | | 1.61E+09 | | | 1.61E+09 | 3208 |
| GNB4 | seratonerg |  | 1.61E+09 | | | | 1.61E+09 | 3208 |
| GNB5 | GABAergic |  | 8.39E+08 | | | | 8.39E+08 | 3738 |
| GNB5 | Dopaminer | | | 8.39E+08 | | | 8.39E+08 | 3738 |
| GNB5 | seratonerg |  | 8.39E+08 | | | | 8.39E+08 | 3738 |
| GNG10 | GABAergic |  | 2.29E+08 | | | | 2.29E+08 | 274 |
| GNG10 | Dopaminer | | | 2.29E+08 | | | 2.29E+08 | 274 |
| GNG10 | seratonerg |  | 2.29E+08 | | | | 2.29E+08 | 274 |
| GNG11 | GABAergic |  | 4.68E+08 | | | | 4.68E+08 | 967 |
| GNG11 | Dopaminer | | | 4.68E+08 | | | 4.68E+08 | 967 |
| GNG11 | seratonerg |  | 4.68E+08 | | | | 4.68E+08 | 967 |
| GNG12 | MAPK path |  | 4.09E+08 | | | | 4.09E+08 | 4371 |
| GNG12 | GABAergic |  | 4.09E+08 | | | | 4.09E+08 | 4371 |
| GNG12 | Dopaminer | | | 4.09E+08 | | | 4.09E+08 | 4371 |
| GNG12 | seratonerg |  | 4.09E+08 | | | | 4.09E+08 | 4371 |
| GNG13 | GABAergic |  |  |  |  | 4242105 | 4242948 | 843 |
| GNG13 | Dopaminer | | | | | 4242105 | 4242948 | 843 |
| GNG13 | seratonerg |  |  |  |  | 4242105 | 4242948 | 843 |
| GNG2 | GABAergic |  | 4.19E+08 | | | | 4.19E+08 | 3621 |
| GNG2 | Dopaminer | | | 4.19E+08 | | | 4.19E+08 | 3621 |
| GNG2 | seratonerg |  | 4.19E+08 | | | | 4.19E+08 | 3621 |
| GNG3 | GABAergic |  | 1.87E+08 | | | | 1.87E+08 | 684 |
| GNG3 | Dopaminer | | | 1.87E+08 | | | 1.87E+08 | 684 |
| GNG3 | seratonerg |  | 1.87E+08 | | | | 1.87E+08 | 684 |
| GNG4 | GABAergic |  | 1.41E+09 | | | | 1.41E+09 | 1157 |
| GNG4 | Dopaminer | | | 1.41E+09 | | | 1.41E+09 | 1157 |
| GNG4 | seratonerg |  | 1.41E+09 | | | | 1.41E+09 | 1157 |
| GNG5 | GABAergic |  | 2.55E+08 | | | | 2.55E+08 | 498 |
| GNG5 | Dopaminer | | | 2.55E+08 | | | 2.55E+08 | 498 |
| GNG5 | seratonerg |  | 2.55E+08 | | | | 2.55E+08 | 498 |

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| GNG7 | GABAergic |  |  |  |  |  | 5035598 | 5035908 | 310 |
| GNG7 | Dopaminer | | | | | | 5035598 | 5035908 | 310 |
| GNG7 | seratonerg |  |  |  |  |  | 5035598 | 5035908 | 310 |
| GNG8 | GABAergic | 94275089 | | | | | | 94275470 | 381 |
| GNG8 | Dopaminer 94275089 | | | | | | | 94275470 | 381 |
| GNG8 | seratonerg | 94275089 | | | | | | 94275470 | 381 |
| GNGT1 | GABAergic |  |  | 1.87E+08 | | | | 1.87E+08 | 414 |
| GNGT1 | Dopaminer | | | | 1.87E+08 | | | 1.87E+08 | 414 |
| GNGT1 | seratonerg |  |  | 1.87E+08 | | | | 1.87E+08 | 414 |
| GNGT2 | GABAergic |  |  | 1.89E+08 | | | | 1.89E+08 | 1161 |
| GNGT2 | Dopaminer | | | | 1.89E+08 | | | 1.89E+08 | 1161 |
| GNGT2 | seratonerg |  |  | 1.89E+08 | | | | 1.89E+08 | 1161 |
| GPHN | GABAergic |  |  | 2.09E+09 | | | | 2.09E+09 | 6054 |
| GRB2 | MAPK path |  |  | 8.07E+08 | | | | 8.07E+08 | 3077 |
| GRIA1 | Dopaminer | | | | 3.67E+09 | | | 3.67E+09 | 6397 |
| GRIA1 | longterm\_ | | | | | 3.67E+09 | | 3.67E+09 | 6397 |
| GRIA2 | Dopaminer | | | | 2.85E+09 | | | 2.85E+09 | 3899 |
| GRIA2 | longterm\_ | | | | | 2.85E+09 | | 2.85E+09 | 3899 |
| GRIA3 | Dopaminer | | | | 2.82E+09 | | | 2.82E+09 | 4359 |
| GRIA4 | Dopaminer | | | | 2.75E+09 | | | 2.75E+09 | 7246 |
| GRIN1 | longterm\_ | | | | | 2.94E+09 | | 2.94E+09 | 6459 |
| GRIN1 | Calcium sig | | | 2.94E+09 | | | | 2.94E+09 | 6459 |
| GRIN2A | Calcium sig | | | 2.57E+08 | | | | 2.57E+08 | 14589 |
| GRIN2A | Dopaminer | | | | 2.57E+08 | | | 2.57E+08 | 14589 |
| GRIN2A | longterm\_ | | | | | 2.57E+08 | | 2.57E+08 | 14589 |
| GRIN2B | Dopaminer | | | | 2.76E+08 | | | 2.76E+08 | 6486 |
| GRIN2B | longterm\_ | | | | | 2.76E+08 | | 2.76E+08 | 6486 |
| GRIN2C | Calcium sig | | | 1.24E+09 | | | | 1.24E+09 | 4782 |
| GRIN2C | longterm\_ | | | | | 1.24E+09 | | 1.24E+09 | 4782 |
| GRIN2D | Calcium sig | | |  |  |  | 9.3E+08 | 9.3E+08 | 4137 |
| GRIN2D | longterm\_ | | | | | | 9.3E+08 | 9.3E+08 | 4137 |
| GRM1 | Calcium sig | | | 1.91E+09 | | | | 1.91E+09 | 7024 |
| GRM1 | longterm\_ | | | | | 1.91E+09 | | 1.91E+09 | 7024 |
| GRM5 | Calcium sig | | |  |  |  | 1.5E+09 | 1.5E+09 | 4985 |
| GRM5 | longterm\_ | | | | | | 1.5E+09 | 1.5E+09 | 4985 |
| GRPR | Calcium sig | | 80793249 | | | | | 80795148 | 1899 |
| GSK3A | Dopaminer | | | | | | 4.7E+08 | 4.7E+08 | 2676 |
| GSK3B | Dopaminer | | | | 2.63E+09 | | | 2.63E+09 | 8454 |
| GSTA1 | drug\_meta | | | 4.21E+08 | | | | 4.21E+08 | 960 |
| GSTA2 | drug\_meta | | | 5.79E+08 | | | | 5.79E+08 | 1291 |
| GSTA3 | drug\_meta | | | 2.64E+08 | | | | 2.64E+08 | 719 |
| GSTA4 | drug\_meta | | |  |  |  | 3.7E+08 | 3.7E+08 | 1730 |
| GSTA5 | drug\_meta | | | 3.69E+08 | | | | 3.69E+08 | 784 |
| GSTK1 | drug\_meta | | | 1.29E+09 | | | | 1.29E+09 | 1636 |
| GSTM1 | drug\_meta | | | 7.72E+08 | | | | 7.72E+08 | 1204 |
| GSTM2 | drug\_meta | | | 7.72E+08 | | | | 7.72E+08 | 1422 |
| GSTM3 | drug\_meta | | | 1.87E+09 | | | | 1.87E+09 | 4085 |
| GSTM4 | drug\_meta | | | 1.32E+09 | | | | 1.32E+09 | 1853 |
| GSTM5 | drug\_meta | | | 8.82E+08 | | | | 8.82E+08 | 1772 |
| GSTO1 | drug\_meta | | | 8.48E+08 | | | | 8.48E+08 | 1536 |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| GSTO2 | drug\_meta | | | 7.42E+08 | | 7.42E+08 | 1501 |
| GSTP1 | drug\_meta | | | 6.06E+08 | | 6.06E+08 | 1635 |
| GSTT1 | drug\_meta | | | 1.71E+08 | | 1.71E+08 | 1280 |
| GSTT2 | drug\_meta | | | 2.43E+08 | | 2.43E+08 | 2762 |
| GSTT2B | drug\_meta | | | 1.22E+08 | | 1.22E+08 | 1381 |
| GUSB | drug\_meta | | | 9.16E+08 | | 9.16E+08 | 1910 |
| HAP1 | GABAergic |  |  | 4.39E+08 | | 4.39E+08 | 5094 |
| HPRT1 | drug\_meta | | |  | 1.6E+09 | 1.6E+09 | 2217 |
| HRAS | longterm\_ | | | | 3198378 | 3199764 | 1386 |
| HRAS | MAPK path |  |  |  | 3198378 | 3199764 | 1386 |
| HRAS | seratonerg |  |  |  | 3198378 | 3199764 | 1386 |
| HRH1 | Calcium sig | | 67812629 | | | 67816684 | 4055 |
| HRH2 | Calcium sig | | | 1.23E+09 | | 1.23E+09 | 3946 |
| HSPA1A | MAPK path |  |  | 1.91E+08 | | 1.91E+08 | 2245 |
| HSPA1B | MAPK path |  |  | 1.59E+08 | | 1.59E+08 | 2252 |
| HSPA1L | MAPK path |  |  | 1.91E+08 | | 1.91E+08 | 1833 |
| HSPA2 | MAPK path |  |  | 4.55E+08 | | 4.55E+08 | 2298 |
| HSPA6 | MAPK path |  |  | 1.13E+09 | | 1.13E+09 | 2544 |
| HSPA8 | MAPK path |  |  | 1.72E+09 | | 1.72E+09 | 1744 |
| HSPB1 | MAPK path |  |  |  | 3.8E+08 | 3.8E+08 | 1121 |
| HTR1A | seratonerg |  |  | 2.53E+08 | | 2.53E+08 | 1709 |
| HTR1B | seratonerg | 78171890 | | | | 78173087 | 1197 |
| HTR1D | seratonerg |  |  | 1.18E+08 | | 1.18E+08 | 2376 |
| HTR1E | seratonerg |  |  | 3.51E+08 | | 3.51E+08 | 1495 |
| HTR1F | seratonerg |  |  | 5.28E+08 | | 5.28E+08 | 3086 |
| HTR2A | Calcium sig | | | 4.27E+08 | | 4.27E+08 | 3082 |
| HTR2A | seratonerg |  |  | 4.27E+08 | | 4.27E+08 | 3082 |
| HTR2B | Calcium sig | | | 1.16E+09 | | 1.16E+09 | 1946 |
| HTR2B | seratonerg |  |  | 1.16E+09 | | 1.16E+09 | 1946 |
| HTR2C | Calcium sig | | | 9.13E+08 | | 9.13E+08 | 3996 |
| HTR2C | seratonerg |  |  | 9.13E+08 | | 9.13E+08 | 3996 |
| HTR3A | seratonerg |  |  | 1.25E+09 | | 1.25E+09 | 3124 |
| HTR3B | seratonerg |  |  | 1.25E+09 | | 1.25E+09 | 2302 |
| HTR3C | seratonerg |  |  | 2.21E+09 | | 2.21E+09 | 1976 |
| HTR3D | seratonerg |  |  | 2.02E+09 | | 2.02E+09 | 2259 |
| HTR3E | seratonerg |  |  | 2.21E+09 | | 2.21E+09 | 2843 |
| HTR4 | Calcium sig | | | 2.07E+09 | | 2.07E+09 | 4493 |
| HTR4 | seratonerg |  |  | 2.07E+09 | | 2.07E+09 | 4493 |
| HTR5A | Calcium sig | | | 1.08E+09 | | 1.08E+09 | 2818 |
| HTR5A | seratonerg |  |  | 1.08E+09 | | 1.08E+09 | 2818 |
| HTR6 | seratonerg |  |  |  | 1.4E+08 | 1.4E+08 | 1877 |
| HTR6 | Calcium sig | | |  | 1.4E+08 | 1.4E+08 | 1877 |
| HTR7 | Calcium sig | | | 1.11E+09 | | 1.11E+09 | 3416 |
| HTR7 | seratonerg |  |  | 1.11E+09 | | 1.11E+09 | 3416 |
| IKBKB | MAPK path |  |  |  | 1.1E+09 | 1.1E+09 | 5097 |
| IKBKG | MAPK path |  |  | 1.69E+09 | | 1.69E+09 | 2620 |
| IL1A | MAPK path |  |  | 9.08E+08 | | 9.08E+08 | 2345 |
| IL1B | MAPK path |  |  | 9.09E+08 | | 9.09E+08 | 1832 |
| IL1R1 | MAPK path |  |  | 1.34E+09 | | 1.34E+09 | 5104 |
| IL1R2 | MAPK path |  |  | 9.24E+08 | | 9.24E+08 | 1942 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| IMPDH1 | drug\_meta | | |  |  |  | 2.3E+09 | 2.3E+09 | 2435 |
| IMPDH2 | drug\_meta | | | 3.43E+08 | | | | 3.43E+08 | 2777 |
| ITPA | drug\_meta | | 35177300 | | | | | 35179266 | 1966 |
| ITPKA | Calcium sig | | | 4.18E+08 | | | | 4.18E+08 | 2058 |
| ITPKB | Calcium sig | | | 3.63E+09 | | | | 3.63E+09 | 6260 |
| ITPKC | Calcium sig | | | 4.12E+08 | | | | 4.12E+08 | 2617 |
| ITPR1 | Calcium sig | | | 3.04E+08 | | | | 3.04E+08 | 13889 |
| ITPR1 | Dopaminer | | | | 3.04E+08 | | | 3.04E+08 | 13889 |
| ITPR1 | seratonerg |  |  | 3.04E+08 | | | | 3.04E+08 | 13889 |
| ITPR1 | longterm\_ | | | | | 3.04E+08 | | 3.04E+08 | 13889 |
| ITPR2 | longterm\_ | | | | | 1.63E+09 | | 1.63E+09 | 14084 |
| ITPR2 | seratonerg |  |  | 1.63E+09 | | | | 1.63E+09 | 14084 |
| ITPR2 | Calcium sig | | | 1.63E+09 | | | | 1.63E+09 | 14084 |
| ITPR2 | Dopaminer | | | | 1.63E+09 | | | 1.63E+09 | 14084 |
| ITPR3 | Calcium sig | | | 1.82E+09 | | | | 1.82E+09 | 12420 |
| ITPR3 | Dopaminer | | | | 1.82E+09 | | | 1.82E+09 | 12420 |
| ITPR3 | seratonerg |  |  | 1.82E+09 | | | | 1.82E+09 | 12420 |
| ITPR3 | longterm\_ | | | | | 1.82E+09 | | 1.82E+09 | 12420 |
| JMJD7-PLA MAPK path | |  |  | 8.43E+08 | | | | 8.43E+08 | 5431 |
| JMJD7-PLA seratonerg | |  |  | 8.43E+08 | | | | 8.43E+08 | 5431 |
| JUN | MAPK path |  |  | 2.96E+08 | | | | 2.96E+08 | 3165 |
| JUND | MAPK path | 36783030 | | | | | | 36783995 | 965 |
| KCND2 | seratonerg |  |  | 2.04E+09 | | | | 2.04E+09 | 5540 |
| KCNJ3 | Dopaminer | | | | 1.25E+09 | | | 1.25E+09 | 4120 |
| KCNJ3 | seratonerg |  |  | 1.25E+09 | | | | 1.25E+09 | 4120 |
| KCNJ5 | Dopaminer | | | | 1.03E+09 | | | 1.03E+09 | 3042 |
| KCNJ5 | seratonerg |  |  | 1.03E+09 | | | | 1.03E+09 | 3042 |
| KCNJ6 | GABAergic |  |  | 1.56E+08 | | | | 1.56E+08 | 2074 |
| KCNJ6 | Dopaminer | | | | 1.56E+08 | | | 1.56E+08 | 2074 |
| KCNJ6 | seratonerg |  |  | 1.56E+08 | | | | 1.56E+08 | 2074 |
| KCNJ9 | Dopaminer | | | | | | 9.6E+08 | 9.6E+08 | 3009 |
| KCNJ9 | seratonerg |  |  |  |  |  | 9.6E+08 | 9.6E+08 | 3009 |
| KCNN2 | seratonerg |  |  | 1.14E+09 | | | | 1.14E+09 | 3324 |
| KIF5A | Dopaminer | | | | 1.68E+09 | | | 1.68E+09 | 5560 |
| KIF5B | Dopaminer | | | | 7.43E+08 | | | 7.43E+08 | 4735 |
| KIF5C | Dopaminer | | | | 4.19E+09 | | | 4.19E+09 | 5106 |
| KRAS | MAPK path |  |  | 5.83E+08 | | | | 5.83E+08 | 4718 |
| KRAS | seratonerg |  |  | 5.83E+08 | | | | 5.83E+08 | 4718 |
| KRAS | longterm\_ | | | | | 5.83E+08 | | 5.83E+08 | 4718 |
| LAMTOR3 | MAPK path |  |  | 1.71E+09 | | | | 1.71E+09 | 4019 |
| LHCGR | Calcium sig | | | 6.36E+08 | | | | 6.36E+08 | 3848 |
| LTB4R2 | Calcium sig | | | 1.24E+08 | | | | 1.24E+08 | 2142 |
| MAOA | Dopaminer | | | | 7.85E+08 | | | 7.85E+08 | 5296 |
| MAOA | drug\_meta | | | 7.85E+08 | | | | 7.85E+08 | 5296 |
| MAOA | seratonerg |  |  | 7.85E+08 | | | | 7.85E+08 | 5296 |
| MAOB | Dopaminer | | | | 8.73E+08 | | | 8.73E+08 | 3851 |
| MAOB | drug\_meta | | | 8.73E+08 | | | | 8.73E+08 | 3851 |
| MAOB | seratonerg |  |  | 8.73E+08 | | | | 8.73E+08 | 3851 |
| MAP2K1 | MAPK path |  |  |  |  |  | 1.4E+09 | 1.4E+09 | 3242 |
| MAP2K1 | seratonerg |  |  |  |  |  | 1.4E+09 | 1.4E+09 | 3242 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| MAP2K1 | longterm\_ | | | | | 1.4E+09 | 1.4E+09 | 3242 |
| MAP2K2 | MAPK path | 65685259 | | | | | 65687481 | 2222 |
| MAP2K2 | longterm\_ 65685259 | | | | | | 65687481 | 2222 |
| MAP2K3 | MAPK path |  | 3.39E+08 | | | | 3.39E+08 | 3541 |
| MAP2K4 | MAPK path |  | 1.56E+08 | | | | 1.56E+08 | 1901 |
| MAP2K5 | MAPK path |  |  |  |  | 1.7E+09 | 1.7E+09 | 5216 |
| MAP2K6 | MAPK path |  | 8.78E+08 | | | | 8.78E+08 | 2422 |
| MAP2K7 | MAPK path | 87731218 | | | | | 87735250 | 4032 |
| MAP3K1 | MAPK path |  | 1.69E+09 | | | | 1.69E+09 | 7752 |
| MAP3K11 | MAPK path |  | 7.84E+08 | | | | 7.84E+08 | 4154 |
| MAP3K12 | MAPK path |  | 7.54E+08 | | | | 7.54E+08 | 4856 |
| MAP3K13 | MAPK path |  |  |  |  | 5E+09 | 5E+09 | 10620 |
| MAP3K14 | MAPK path |  |  |  |  | 7.8E+08 | 7.8E+08 | 3761 |
| MAP3K2 | MAPK path |  | 3.46E+09 | | | | 3.46E+09 | 11374 |
| MAP3K3 | MAPK path |  | 1.05E+09 | | | | 1.05E+09 | 3455 |
| MAP3K4 | MAPK path |  | 5.01E+09 | | | | 5.01E+09 | 7098 |
| MAP3K5 | MAPK path |  | 4.52E+09 | | | | 4.52E+09 | 7245 |
| MAP3K6 | MAPK path |  | 5.81E+08 | | | | 5.81E+08 | 6225 |
| MAP3K7 | MAPK path |  | 2.01E+09 | | | | 2.01E+09 | 6126 |
| MAP3K8 | MAPK path |  | 3.07E+08 | | | | 3.07E+08 | 2868 |
| MAP4K1 | MAPK path |  | 1.06E+09 | | | | 1.06E+09 | 5089 |
| MAP4K2 | MAPK path |  | 9.68E+08 | | | | 9.68E+08 | 5167 |
| MAP4K3 | MAPK path |  | 1.34E+09 | | | | 1.34E+09 | 7328 |
| MAP4K4 | MAPK path |  |  |  |  | 4.2E+09 | 4.2E+09 | 7971 |
| MAPK1 | MAPK path |  | 1.99E+08 | | | | 1.99E+08 | 1775 |
| MAPK1 | seratonerg |  | 1.99E+08 | | | | 1.99E+08 | 1775 |
| MAPK1 | longterm\_ | | | | 1.99E+08 | | 1.99E+08 | 1775 |
| MAPK10 | MAPK path |  | 1.22E+09 | | | | 1.22E+09 | 4532 |
| MAPK10 | Dopaminer | | | 1.22E+09 | | | 1.22E+09 | 4532 |
| MAPK11 | MAPK path |  | 5.58E+08 | | | | 5.58E+08 | 3372 |
| MAPK11 | Dopaminer | | | 5.58E+08 | | | 5.58E+08 | 3372 |
| MAPK12 | MAPK path |  | 5.58E+08 | | | | 5.58E+08 | 2600 |
| MAPK12 | Dopaminer | | | 5.58E+08 | | | 5.58E+08 | 2600 |
| MAPK13 | MAPK path |  | 4.69E+08 | | | | 4.69E+08 | 2803 |
| MAPK13 | Dopaminer | | | 4.69E+08 | | | 4.69E+08 | 2803 |
| MAPK14 | MAPK path |  | 6.49E+08 | | | | 6.49E+08 | 5522 |
| MAPK14 | Dopaminer | | | 6.49E+08 | | | 6.49E+08 | 5522 |
| MAPK3 | MAPK path |  | 2.41E+08 | | | | 2.41E+08 | 1945 |
| MAPK3 | seratonerg |  | 2.41E+08 | | | | 2.41E+08 | 1945 |
| MAPK3 | longterm\_ | | | | 2.41E+08 | | 2.41E+08 | 1945 |
| MAPK7 | MAPK path |  | 1.54E+08 | | | | 1.54E+08 | 3976 |
| MAPK8 | MAPK path |  | 6.45E+08 | | | | 6.45E+08 | 2465 |
| MAPK8 | Dopaminer | | | 6.45E+08 | | | 6.45E+08 | 2465 |
| MAPK8IP1 | MAPK path |  | 7.81E+08 | | | | 7.81E+08 | 3319 |
| MAPK8IP2 | MAPK path |  | 7.66E+08 | | | | 7.66E+08 | 4144 |
| MAPK8IP3 | MAPK path | 50425177 | | | | | 50433700 | 8523 |
| MAPK9 | MAPK path |  | 4.13E+09 | | | | 4.13E+09 | 6587 |
| MAPK9 | Dopaminer | | | 4.13E+09 | | | 4.13E+09 | 6587 |
| MAPKAPK2 | MAPK path |  | 3.31E+09 | | | | 3.31E+09 | 3774 |
| MAPKAPK3 | MAPK path |  |  |  |  | 7.6E+08 | 7.6E+08 | 3504 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| MAPKAPK5 | MAPK path |  |  |  |  | 1.8E+09 | 1.8E+09 | 3824 |
| MAPT | MAPK path |  |  |  | 9.26E+08 | | 9.26E+08 | 7779 |
| MAX | MAPK path |  |  |  | 7.21E+08 | | 7.21E+08 | 3535 |
| MECOM | MAPK path |  |  |  | 3.72E+09 | | 3.72E+09 | 6426 |
| MEF2C | MAPK path |  |  |  | 1.32E+09 | | 1.32E+09 | 6646 |
| MGST1 | drug\_meta | | | | 1.16E+08 | | 1.16E+08 | 1866 |
| MGST2 | drug\_meta | | | | 8.44E+08 | | 8.44E+08 | 1091 |
| MGST3 | drug\_meta | | | | 9.94E+08 | | 9.94E+08 | 1023 |
| MKNK1 | MAPK path |  |  |  | 8.47E+08 | | 8.47E+08 | 3713 |
| MKNK2 | MAPK path | 22465659 | | | | | 22468375 | 2716 |
| MOS | MAPK path |  |  |  | 1.14E+08 | | 1.14E+08 | 1088 |
| MRAS | MAPK path |  |  |  |  | 1.1E+09 | 1.1E+09 | 4241 |
| MYC | MAPK path |  |  |  | 7.73E+08 | | 7.73E+08 | 2397 |
| MYLK | Calcium sig | | | | 5.18E+09 | | 5.18E+09 | 9216 |
| MYLK2 | Calcium sig | | | | 4.26E+08 | | 4.26E+08 | 3541 |
| MYLK3 | Calcium sig | | | | 7.48E+08 | | 7.48E+08 | 3722 |
| MYLK4 | Calcium sig | | | 29563655 | | | 29565863 | 2208 |
| NAT1 | drug\_meta | | | | 1.45E+08 | | 1.45E+08 | 2119 |
| NAT2 | drug\_meta | | 54774151 | | | | 54775290 | 1139 |
| NF1 | MAPK path |  |  |  | 2.01E+09 | | 2.01E+09 | 14001 |
| NFATC1 | MAPK path |  |  |  | 1.16E+09 | | 1.16E+09 | 3867 |
| NFATC3 | MAPK path |  |  |  | 1.09E+09 | | 1.09E+09 | 7257 |
| NFKB1 | MAPK path |  |  |  |  | 2.9E+09 | 2.9E+09 | 4989 |
| NFKB2 | MAPK path |  |  |  | 1.77E+09 | | 1.77E+09 | 4640 |
| NGF | MAPK path |  |  |  | 3.47E+08 | | 3.47E+08 | 1041 |
| NLK | MAPK path |  |  |  | 4.77E+08 | | 4.77E+08 | 3777 |
| NOS1 | Calcium sig | | | | 5.77E+09 | | 5.77E+09 | 12686 |
| NOS2 | Calcium sig | | | | 7.57E+08 | | 7.57E+08 | 4938 |
| NOS3 | Calcium sig | | | | 3.62E+09 | | 3.62E+09 | 6054 |
| NR4A1 | MAPK path |  |  |  | 4.72E+08 | | 4.72E+08 | 2957 |
| NRAS | MAPK path |  |  |  | 4.61E+08 | | 4.61E+08 | 895 |
| NRAS | seratonerg |  |  |  | 4.61E+08 | | 4.61E+08 | 895 |
| NRAS | longterm\_ | | | | | 4.61E+08 | 4.61E+08 | 895 |
| NSF | GABAergic |  |  |  | 9.85E+08 | | 9.85E+08 | 5000 |
| NTF3 | MAPK path | 22352245 | | | | | 22353607 | 1362 |
| NTF4 | MAPK path |  |  |  | 1.49E+08 | | 1.49E+08 | 443 |
| NTRK1 | MAPK path |  |  |  | 3.45E+09 | | 3.45E+09 | 4561 |
| NTRK2 | MAPK path |  |  |  | 3.24E+09 | | 3.24E+09 | 16048 |
| NTSR1 | Calcium sig | | | | 5.52E+08 | | 5.52E+08 | 4002 |
| ORAI1 | Calcium sig | | | | 7.32E+08 | | 7.32E+08 | 1506 |
| ORAI2 | Calcium sig | | | | 2.04E+09 | | 2.04E+09 | 7051 |
| ORAI3 | Calcium sig | | | | 1.55E+08 | | 1.55E+08 | 2085 |
| OXTR | Calcium sig | | | | 1.32E+08 | | 1.32E+08 | 3199 |
| P2RX1 | Calcium sig | | | 41871697 | | | 41873773 | 2076 |
| P2RX2 | Calcium sig | | | | 1.07E+09 | | 1.07E+09 | 2661 |
| P2RX3 | Calcium sig | | | | 7.43E+08 | | 7.43E+08 | 2444 |
| P2RX4 | Calcium sig | | | | 1.58E+09 | | 1.58E+09 | 2896 |
| P2RX5 | Calcium sig | | | 46672488 | | | 46675318 | 2830 |
| P2RX6 | Calcium sig | | | | 1.92E+08 | | 1.92E+08 | 3818 |
| P2RX7 | Calcium sig | | | | 1.95E+09 | | 1.95E+09 | 3532 |

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| --- | --- | --- | --- | --- | --- | --- |
| PAK1 | MAPK path | 1.62E+09 | | | 1.62E+09 | 4557 |
| PAK2 | MAPK path |  |  | 5.7E+09 | 5.7E+09 | 5498 |
| PDE1A | Calcium sig | 3.66E+09 | | | 3.66E+09 | 3947 |
| PDE1B | Calcium sig | 9.89E+08 | | | 9.89E+08 | 4565 |
| PDE1C | Calcium sig | 8.94E+08 | | | 8.94E+08 | 7873 |
| PDGFA | MAPK path |  |  | 5469831 | 5472535 | 2704 |
| PDGFB | MAPK path | 3.57E+08 | | | 3.57E+08 | 2040 |
| PDGFRA | Calcium sig | 1.21E+09 | | | 1.21E+09 | 7620 |
| PDGFRA | MAPK path | 1.21E+09 | | | 1.21E+09 | 7620 |
| PDGFRB | Calcium sig | 4.04E+09 | | | 4.04E+09 | 6629 |
| PDGFRB | MAPK path | 4.04E+09 | | | 4.04E+09 | 6629 |
| PHKA1 | Calcium sig | 2.59E+09 | | | 2.59E+09 | 8308 |
| PHKA2 | Calcium sig | 7.01E+08 | | | 7.01E+08 | 8230 |
| PHKB | Calcium sig | 1.67E+09 | | | 1.67E+09 | 7737 |
| PHKG1 | Calcium sig | 6.74E+08 | | | 6.74E+08 | 2040 |
| PHKG2 | Calcium sig |  |  | 4E+08 | 4E+08 | 4156 |
| PLA2G4A | MAPK path | 3.36E+09 | | | 3.36E+09 | 3646 |
| PLA2G4A | seratonerg | 3.36E+09 | | | 3.36E+09 | 3646 |
| PLA2G4B | MAPK path | 7.16E+08 | | | 7.16E+08 | 4142 |
| PLA2G4B | seratonerg | 7.16E+08 | | | 7.16E+08 | 4142 |
| PLA2G4C | MAPK path | 9.23E+08 | | | 9.23E+08 | 3302 |
| PLA2G4C | seratonerg | 9.23E+08 | | | 9.23E+08 | 3302 |
| PLA2G4D | MAPK path |  |  | 8.9E+08 | 8.9E+08 | 4900 |
| PLA2G4D | seratonerg |  |  | 8.9E+08 | 8.9E+08 | 4900 |
| PLA2G4E | MAPK path | 9.73E+08 | | | 9.73E+08 | 5641 |
| PLA2G4E | seratonerg | 9.73E+08 | | | 9.73E+08 | 5641 |
| PLA2G4F | MAPK path | 8.06E+08 | | | 8.06E+08 | 4405 |
| PLA2G4F | seratonerg | 8.06E+08 | | | 8.06E+08 | 4405 |
| PLCB1 | longterm\_ | | | 3.21E+08 | 3.21E+08 | 9302 |
| PLCB1 | Dopaminer | | 3.21E+08 | | 3.21E+08 | 9302 |
| PLCB1 | seratonerg | 3.21E+08 | | | 3.21E+08 | 9302 |
| PLCB1 | Calcium sig | 3.21E+08 | | | 3.21E+08 | 9302 |
| PLCB2 | Calcium sig | 1.01E+09 | | | 1.01E+09 | 7117 |
| PLCB2 | Dopaminer | | 1.01E+09 | | 1.01E+09 | 7117 |
| PLCB2 | seratonerg | 1.01E+09 | | | 1.01E+09 | 7117 |
| PLCB2 | longterm\_ | | | 1.01E+09 | 1.01E+09 | 7117 |
| PLCB3 | Calcium sig | 1.47E+09 | | | 1.47E+09 | 6076 |
| PLCB3 | Dopaminer | | 1.47E+09 | | 1.47E+09 | 6076 |
| PLCB3 | seratonerg | 1.47E+09 | | | 1.47E+09 | 6076 |
| PLCB3 | longterm\_ | | | 1.47E+09 | 1.47E+09 | 6076 |
| PLCB4 | Calcium sig | 3.76E+08 | | | 3.76E+08 | 9231 |
| PLCB4 | Dopaminer | | 3.76E+08 | | 3.76E+08 | 9231 |
| PLCB4 | seratonerg | 3.76E+08 | | | 3.76E+08 | 9231 |
| PLCB4 | longterm\_ | | | 3.76E+08 | 3.76E+08 | 9231 |
| PLCD1 | Calcium sig | 4.19E+08 | | | 4.19E+08 | 4009 |
| PLCD3 | Calcium sig | 5.62E+08 | | | 5.62E+08 | 3414 |
| PLCD4 | Calcium sig | 3.95E+09 | | | 3.95E+09 | 4211 |
| PLCE1 | Calcium sig | 3.74E+09 | | | 3.74E+09 | 9299 |
| PLCG1 | Calcium sig | 1.15E+09 | | | 1.15E+09 | 7707 |
| PLCG2 | Calcium sig | 2.62E+09 | | | 2.62E+09 | 6219 |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| PLCL1 | GABAergic | 2.19E+09 | | | | 2.19E+09 | 5056 |
| PLCZ1 | Calcium sig | 2.64E+08 | | | | 2.64E+08 | 2594 |
| PLN | Calcium sig | 4.76E+08 | | | | 4.76E+08 | 1312 |
| PPIF | Calcium sig | 8.92E+08 | | | | 8.92E+08 | 2398 |
| PPM1A | MAPK path | 9.11E+08 | | | | 9.11E+08 | 11050 |
| PPM1B | MAPK path | 5.33E+08 | | | | 5.33E+08 | 4725 |
| PPP1CA | Dopaminer | | 5.37E+08 | | | 5.37E+08 | 2240 |
| PPP1CA | longterm\_ | | | 5.37E+08 | | 5.37E+08 | 2240 |
| PPP1CB | Dopaminer | | 3.48E+08 | | | 3.48E+08 | 5180 |
| PPP1CB | longterm\_ | | | 3.48E+08 | | 3.48E+08 | 5180 |
| PPP1CC | Dopaminer | | 1.11E+09 | | | 1.11E+09 | 2809 |
| PPP1CC | longterm\_ | | | 1.11E+09 | | 1.11E+09 | 2809 |
| PPP1R1A | longterm\_ | | | | 5.5E+08 | 5.5E+08 | 2451 |
| PPP1R1B | Dopaminer | | | | 3.4E+08 | 3.4E+08 | 2170 |
| PPP2CA | Dopaminer | | 1.47E+09 | | | 1.47E+09 | 3802 |
| PPP2CB | Dopaminer | | 3.68E+08 | | | 3.68E+08 | 2328 |
| PPP2R1A | Dopaminer | | 8.43E+08 | | | 8.43E+08 | 4281 |
| PPP2R1B | Dopaminer | | 2.57E+09 | | | 2.57E+09 | 6812 |
| PPP2R2A | Dopaminer | | 4.98E+08 | | | 4.98E+08 | 4608 |
| PPP2R2B | Dopaminer | | 2.63E+09 | | | 2.63E+09 | 4909 |
| PPP2R2C | Dopaminer 95495668 | | | | | 95500838 | 5170 |
| PPP2R2D | Dopaminer | | 1.47E+09 | | | 1.47E+09 | 2238 |
| PPP2R3A | Dopaminer | | 2.99E+09 | | | 2.99E+09 | 7518 |
| PPP2R3B | Dopaminer | | | | 9569522 | 9575078 | 5556 |
| PPP2R3C | Dopaminer | | 4.62E+08 | | | 4.62E+08 | 2764 |
| PPP2R5A | Dopaminer | | 3.83E+09 | | | 3.83E+09 | 3992 |
| PPP2R5B | Dopaminer | | 7.76E+08 | | | 7.76E+08 | 3194 |
| PPP2R5C | Dopaminer | | 2.76E+09 | | | 2.76E+09 | 5523 |
| PPP2R5D | Dopaminer | | 5.16E+08 | | | 5.16E+08 | 4342 |
| PPP2R5E | Dopaminer | | 1.28E+09 | | | 1.28E+09 | 3409 |
| PPP3CA | Calcium sig | 2.14E+09 | | | | 2.14E+09 | 5541 |
| PPP3CA | MAPK path | 2.14E+09 | | | | 2.14E+09 | 5541 |
| PPP3CA | Dopaminer | | 2.14E+09 | | | 2.14E+09 | 5541 |
| PPP3CA | longterm\_ | | | 2.14E+09 | | 2.14E+09 | 5541 |
| PPP3CB | MAPK path | 1.13E+09 | | | | 1.13E+09 | 4447 |
| PPP3CB | Calcium sig | 1.13E+09 | | | | 1.13E+09 | 4447 |
| PPP3CB | Dopaminer | | 1.13E+09 | | | 1.13E+09 | 4447 |
| PPP3CB | longterm\_ | | | 1.13E+09 | | 1.13E+09 | 4447 |
| PPP3CC | Calcium sig | 4.03E+08 | | | | 4.03E+08 | 3505 |
| PPP3CC | MAPK path | 4.03E+08 | | | | 4.03E+08 | 3505 |
| PPP3CC | Dopaminer | | 4.03E+08 | | | 4.03E+08 | 3505 |
| PPP3CC | longterm\_ | | | 4.03E+08 | | 4.03E+08 | 3505 |
| PPP3R1 | Calcium sig | 7.53E+08 | | | | 7.53E+08 | 3088 |
| PPP3R1 | MAPK path | 7.53E+08 | | | | 7.53E+08 | 3088 |
| PPP3R1 | longterm\_ | | | 7.53E+08 | | 7.53E+08 | 3088 |
| PPP3R2 | longterm\_ | | | 5.22E+08 | | 5.22E+08 | 3272 |
| PPP3R2 | Calcium sig | 5.22E+08 | | | | 5.22E+08 | 3272 |
| PPP3R2 | MAPK path | 5.22E+08 | | | | 5.22E+08 | 3272 |
| PPP5C | MAPK path | 6.09E+08 | | | | 6.09E+08 | 3182 |
| PPP5D1 | MAPK path | 1.88E+08 | | | | 1.88E+08 | 776 |

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| PRKACA | MAPK path |  |  |  | 1.42E+08 | | | | 1.42E+08 | 1877 |
| PRKACA | longterm\_ | | | | | | 1.42E+08 | | 1.42E+08 | 1877 |
| PRKACA | GABAergic |  |  |  | 1.42E+08 | | | | 1.42E+08 | 1877 |
| PRKACA | Dopaminer | | | | | 1.42E+08 | | | 1.42E+08 | 1877 |
| PRKACA | seratonerg |  |  |  | 1.42E+08 | | | | 1.42E+08 | 1877 |
| PRKACA | Calcium sig | | |  | 1.42E+08 | | | | 1.42E+08 | 1877 |
| PRKACB | Calcium sig | | |  | 2.03E+09 | | | | 2.03E+09 | 7545 |
| PRKACB | MAPK path |  |  |  | 2.03E+09 | | | | 2.03E+09 | 7545 |
| PRKACB | GABAergic |  |  |  | 2.03E+09 | | | | 2.03E+09 | 7545 |
| PRKACB | Dopaminer | | | | | 2.03E+09 | | | 2.03E+09 | 7545 |
| PRKACB | seratonerg |  |  |  | 2.03E+09 | | | | 2.03E+09 | 7545 |
| PRKACB | longterm\_ | | | | | | 2.03E+09 | | 2.03E+09 | 7545 |
| PRKACG | GABAergic |  |  |  |  |  |  | 4.3E+08 | 4.3E+08 | 1484 |
| PRKACG | longterm\_ | | | | | | | 4.3E+08 | 4.3E+08 | 1484 |
| PRKACG | MAPK path |  |  |  |  |  |  | 4.3E+08 | 4.3E+08 | 1484 |
| PRKACG | Dopaminer | | | | | | | 4.3E+08 | 4.3E+08 | 1484 |
| PRKACG | seratonerg |  |  |  |  |  |  | 4.3E+08 | 4.3E+08 | 1484 |
| PRKACG | Calcium sig | | |  |  |  |  | 4.3E+08 | 4.3E+08 | 1484 |
| PRKCA | Calcium sig | | |  |  |  |  | 1.1E+09 | 1.1E+09 | 3352 |
| PRKCA | MAPK path |  |  |  |  |  |  | 1.1E+09 | 1.1E+09 | 3352 |
| PRKCA | GABAergic |  |  |  |  |  |  | 1.1E+09 | 1.1E+09 | 3352 |
| PRKCA | Dopaminer | | | | | | | 1.1E+09 | 1.1E+09 | 3352 |
| PRKCA | seratonerg |  |  |  |  |  |  | 1.1E+09 | 1.1E+09 | 3352 |
| PRKCA | longterm\_ | | | | | | | 1.1E+09 | 1.1E+09 | 3352 |
| PRKCB | Dopaminer | | | | | | | 7E+08 | 7E+08 | 8520 |
| PRKCB | longterm\_ | | | | | | | 7E+08 | 7E+08 | 8520 |
| PRKCB | MAPK path |  |  |  |  |  |  | 7E+08 | 7E+08 | 8520 |
| PRKCB | GABAergic |  |  |  |  |  |  | 7E+08 | 7E+08 | 8520 |
| PRKCB | seratonerg |  |  |  |  |  |  | 7E+08 | 7E+08 | 8520 |
| PRKCB | Calcium sig | | |  |  |  |  | 7E+08 | 7E+08 | 8520 |
| PRKCG | Calcium sig | | |  | 1.03E+09 | | | | 1.03E+09 | 4523 |
| PRKCG | MAPK path |  |  |  | 1.03E+09 | | | | 1.03E+09 | 4523 |
| PRKCG | GABAergic |  |  |  | 1.03E+09 | | | | 1.03E+09 | 4523 |
| PRKCG | Dopaminer | | | | | 1.03E+09 | | | 1.03E+09 | 4523 |
| PRKCG | seratonerg |  |  |  | 1.03E+09 | | | | 1.03E+09 | 4523 |
| PRKCG | longterm\_ | | | | | | 1.03E+09 | | 1.03E+09 | 4523 |
| PRKX | seratonerg | 50013584 | | | | | | | 50015283 | 1699 |
| PRKX | longterm\_ 50013584 | | | | | | | | 50015283 | 1699 |
| PRKX | Calcium sig | | 50013584 | | | | | | 50015283 | 1699 |
| PRKX | MAPK path | 50013584 | | | | | | | 50015283 | 1699 |
| PRKX | GABAergic | 50013584 | | | | | | | 50015283 | 1699 |
| PRKX | Dopaminer 50013584 | | | | | | | | 50015283 | 1699 |
| PTAFR | Calcium sig | | |  | 1.99E+08 | | | | 1.99E+08 | 3181 |
| PTGER1 | Calcium sig | | 43752059 | | | | | | 43753483 | 1424 |
| PTGER3 | Calcium sig | | |  | 1.43E+09 | | | | 1.43E+09 | 9592 |
| PTGFR | Calcium sig | | |  | 5.53E+08 | | | | 5.53E+08 | 4434 |
| PTGS1 | seratonerg |  |  |  |  |  |  | 2E+09 | 2E+09 | 5529 |
| PTGS2 | seratonerg |  |  |  | 2.24E+09 | | | | 2.24E+09 | 4913 |
| PTK2B | Calcium sig | | |  | 9.28E+08 | | | | 9.28E+08 | 6918 |
| PTPN5 | MAPK path |  |  |  | 2.81E+08 | | | | 2.81E+08 | 3982 |

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| PTPN7 | MAPK path |  |  | 3.44E+09 | | | | 3.44E+09 | 4628 |
| PTPRR | MAPK path |  |  | 1.28E+09 | | | | 1.28E+09 | 5088 |
| RAC1 | MAPK path | 77222718 | | | | | | 77224839 | 2121 |
| RAC2 | MAPK path |  |  | 2.63E+08 | | | | 2.63E+08 | 1234 |
| RAC3 | MAPK path |  |  |  |  |  | 4E+08 | 4E+08 | 1024 |
| RAF1 | MAPK path |  |  | 2.15E+08 | | | | 2.15E+08 | 5028 |
| RAF1 | seratonerg |  |  | 2.15E+08 | | | | 2.15E+08 | 5028 |
| RAF1 | longterm\_ | | | | | 2.15E+08 | | 2.15E+08 | 5028 |
| RAP1A | MAPK path |  |  | 6.73E+08 | | | | 6.73E+08 | 1038 |
| RAP1A | longterm\_ | | | | | 6.73E+08 | | 6.73E+08 | 1038 |
| RAP1B | MAPK path |  |  | 6.21E+08 | | | | 6.21E+08 | 1392 |
| RAP1B | longterm\_ | | | | | 6.21E+08 | | 6.21E+08 | 1392 |
| RAPGEF2 | MAPK path |  |  | 4.49E+09 | | | | 4.49E+09 | 7691 |
| RAPGEF3 | seratonerg |  |  |  |  |  | 1.3E+09 | 1.3E+09 | 8085 |
| RAPGEF3 | longterm\_ | | | | | | 1.3E+09 | 1.3E+09 | 8085 |
| RASA1 | MAPK path |  |  | 2.25E+09 | | | | 2.25E+09 | 6221 |
| RASA2 | MAPK path |  |  | 3.53E+09 | | | | 3.53E+09 | 4694 |
| RASGRF1 | MAPK path |  |  | 2.54E+09 | | | | 2.54E+09 | 8144 |
| RASGRF2 | MAPK path |  |  | 2.57E+09 | | | | 2.57E+09 | 9988 |
| RASGRP1 | MAPK path |  |  | 8.54E+08 | | | | 8.54E+08 | 6532 |
| RASGRP2 | MAPK path |  |  |  |  |  | 1.1E+09 | 1.1E+09 | 4356 |
| RASGRP3 | MAPK path |  |  | 7.77E+08 | | | | 7.77E+08 | 5088 |
| RASGRP4 | MAPK path |  |  | 5.45E+08 | | | | 5.45E+08 | 3280 |
| RELA | MAPK path |  |  | 7.85E+08 | | | | 7.85E+08 | 3425 |
| RELB | MAPK path |  |  | 6.37E+08 | | | | 6.37E+08 | 2964 |
| RPS6KA1 | MAPK path |  |  | 7.26E+08 | | | | 7.26E+08 | 5355 |
| RPS6KA1 | longterm\_ | | | | | 7.26E+08 | | 7.26E+08 | 5355 |
| RPS6KA2 | MAPK path |  |  | 5.34E+09 | | | | 5.34E+09 | 8213 |
| RPS6KA2 | longterm\_ | | | | | 5.34E+09 | | 5.34E+09 | 8213 |
| RPS6KA3 | MAPK path |  |  | 5.25E+08 | | | | 5.25E+08 | 8791 |
| RPS6KA3 | longterm\_ | | | | | 5.25E+08 | | 5.25E+08 | 8791 |
| RPS6KA4 | MAPK path |  |  | 9.62E+08 | | | | 9.62E+08 | 4188 |
| RPS6KA5 | MAPK path |  |  | 2.19E+09 | | | | 2.19E+09 | 5082 |
| RPS6KA6 | MAPK path |  |  | 1.92E+09 | | | | 1.92E+09 | 4134 |
| RPS6KA6 | longterm\_ | | | | | 1.92E+09 | | 1.92E+09 | 4134 |
| RRAS | MAPK path |  |  |  |  |  | 1.5E+08 | 1.5E+08 | 1020 |
| RRAS2 | MAPK path |  |  | 1.86E+08 | | | | 1.86E+08 | 2397 |
| RYR1 | Calcium sig | | | 4.02E+09 | | | | 4.02E+09 | 21815 |
| RYR2 | Calcium sig | | | 2.76E+10 | | | | 2.76E+10 | 24211 |
| RYR3 | Calcium sig | | | 3.78E+09 | | | | 3.78E+09 | 24050 |
| SCN1A | Dopaminer | | | | 6.51E+09 | | | 6.51E+09 | 8507 |
| SLC12A5 | GABAergic |  |  | 1.34E+09 | | | | 1.34E+09 | 7917 |
| SLC18A1 | Dopaminer | | | | | | 3.6E+08 | 3.6E+08 | 3946 |
| SLC18A1 | seratonerg |  |  |  |  |  | 3.6E+08 | 3.6E+08 | 3946 |
| SLC18A2 | Dopaminer | | | | 1.79E+09 | | | 1.79E+09 | 4984 |
| SLC18A2 | seratonerg |  |  | 1.79E+09 | | | | 1.79E+09 | 4984 |
| SLC25A31 | Calcium sig | | | 1.03E+09 | | | | 1.03E+09 | 1872 |
| SLC25A4 | Calcium sig | | | 1.12E+09 | | | | 1.12E+09 | 1477 |
| SLC25A5 | Calcium sig | | |  |  |  | 8.3E+08 | 8.3E+08 | 1047 |
| SLC25A6 | Calcium sig | | 26678018 | | | | | 26681224 | 3206 |

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| SLC32A1 | GABAergic |  |  | 2.24E+08 | 2.24E+08 | 2412 |
| SLC38A1 | GABAergic |  |  | 8.39E+08 | 8.39E+08 | 4039 |
| SLC38A2 | GABAergic |  |  | 7.01E+08 | 7.01E+08 | 5593 |
| SLC38A3 | GABAergic |  |  | 5.53E+08 | 5.53E+08 | 2542 |
| SLC38A5 | GABAergic |  |  | 6.28E+08 | 6.28E+08 | 2727 |
| SLC6A1 | GABAergic |  |  | 1.88E+08 | 1.88E+08 | 5208 |
| SLC6A11 | GABAergic |  |  | 1.53E+08 | 1.53E+08 | 2955 |
| SLC6A13 | GABAergic |  |  | 6524835 | 6528212 | 3377 |
| SLC6A3 | Dopaminer 26793681 | | | | 26797865 | 4184 |
| SLC6A4 | seratonerg |  |  | 5.42E+08 | 5.42E+08 | 5241 |
| SLC8A1 | Calcium sig | | | 8.08E+08 | 8.08E+08 | 7133 |
| SLC8A2 | Calcium sig | | | 4.79E+08 | 4.79E+08 | 3524 |
| SLC8A3 | Calcium sig | | | 7.05E+08 | 7.05E+08 | 5461 |
| SOS1 | MAPK path |  |  | 1.1E+09 | 1.1E+09 | 9309 |
| SOS2 | MAPK path |  |  | 1.27E+09 | 1.27E+09 | 6305 |
| SPHK1 | Calcium sig | | | 2.23E+08 | 2.23E+08 | 2002 |
| SPHK2 | Calcium sig | | | 4.91E+08 | 4.91E+08 | 2891 |
| SRC | GABAergic |  |  | 4.68E+08 | 4.68E+08 | 4782 |
| SRF | MAPK path |  |  | 6.04E+08 | 6.04E+08 | 4447 |
| STIM1 | Calcium sig | | 60822644 | | 60827408 | 4764 |
| STIM2 | Calcium sig | | | 5.13E+08 | 5.13E+08 | 5798 |
| STK3 | MAPK path |  |  | 1.49E+09 | 1.49E+09 | 3339 |
| STK4 | MAPK path |  |  | 1E+09 | 1E+09 | 6248 |
| STMN1 | MAPK path |  |  | 2.62E+08 | 2.62E+08 | 2101 |
| TAB1 | MAPK path |  |  | 6.77E+08 | 6.77E+08 | 4270 |
| TAB2 | MAPK path |  |  | 1.5E+09 | 1.5E+09 | 4321 |
| TACR1 | Calcium sig | | | 7.53E+08 | 7.53E+08 | 2325 |
| TACR2 | Calcium sig | | | 7.12E+08 | 7.12E+08 | 2259 |
| TACR3 | Calcium sig | | | 7.32E+08 | 7.32E+08 | 2355 |
| TAOK1 | MAPK path |  |  | 6.12E+08 | 6.12E+08 | 4036 |
| TAOK2 | MAPK path |  |  | 5.7E+08 | 5.7E+08 | 6900 |
| TAOK3 | MAPK path |  |  | 2.85E+09 | 2.85E+09 | 4966 |
| TBXA2R | Calcium sig | | 21586441 | | 21587759 | 1318 |
| TGFB1 | MAPK path |  |  | 2.93E+08 | 2.93E+08 | 1449 |
| TGFB2 | MAPK path |  |  | 2.62E+09 | 2.62E+09 | 5467 |
| TGFB3 | MAPK path |  |  | 6.88E+08 | 6.88E+08 | 2562 |
| TGFBR1 | MAPK path |  |  | 1.63E+09 | 1.63E+09 | 6637 |
| TGFBR2 | MAPK path |  |  | 4.3E+08 | 4.3E+08 | 4890 |
| TH | Dopaminer 30639017 | | | | 30641923 | 2906 |
| TK1 | drug\_meta | | | 6.09E+08 | 6.09E+08 | 2464 |
| TK2 | drug\_meta | | | 1.06E+09 | 1.06E+09 | 4728 |
| TNF | MAPK path |  |  | 1.26E+08 | 1.26E+08 | 1814 |
| TNFRSF1A | MAPK path | 77301319 | | | 77304329 | 3010 |
| TNNC1 | Calcium sig | | | 3.15E+08 | 3.15E+08 | 1178 |
| TNNC2 | Calcium sig | | | 2.22E+08 | 2.22E+08 | 1191 |
| TP53 | MAPK path |  |  | 1.14E+08 | 1.14E+08 | 5202 |
| TPH1 | seratonerg |  |  | 1.99E+08 | 1.99E+08 | 2712 |
| TPH2 | seratonerg |  |  | 9.41E+08 | 9.41E+08 | 3070 |
| TPMT | drug\_meta | | | 2.9E+08 | 2.9E+08 | 2867 |
| TRAF2 | MAPK path |  |  | 1.82E+09 | 1.82E+09 | 2831 |

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| TRAF6 | MAPK path | 5.48E+08 | 5.48E+08 | 4238 |
| TRAK2 | GABAergic | 4.25E+09 | 4.25E+09 | 7010 |
| TRHR | Calcium sig | 3.3E+08 | 3.3E+08 | 1498 |
| TRPC1 | seratonerg | 2.28E+09 | 2.28E+09 | 4607 |
| TYMP | drug\_meta | 2.55E+08 | 2.55E+08 | 2491 |
| UCK1 | drug\_meta | 1.08E+09 | 1.08E+09 | 2729 |
| UCK2 | drug\_meta | 1.33E+09 | 1.33E+09 | 1664 |
| UCKL1 | drug\_meta | 6.88E+08 | 6.88E+08 | 3395 |
| UGT1A1 | drug\_meta | 1.41E+09 | 1.41E+09 | 2503 |
| UGT1A1 | drug\_meta | 1.41E+09 | 1.41E+09 | 2503 |
| UGT1A10 | drug\_meta | 2.11E+09 | 2.11E+09 | 2036 |
| UGT1A10 | drug\_meta | 2.11E+09 | 2.11E+09 | 2036 |
| UGT1A3 | drug\_meta | 2.11E+09 | 2.11E+09 | 1953 |
| UGT1A3 | drug\_meta | 2.11E+09 | 2.11E+09 | 1953 |
| UGT1A4 | drug\_meta | 2.11E+09 | 2.11E+09 | 2043 |
| UGT1A4 | drug\_meta | 2.11E+09 | 2.11E+09 | 2043 |
| UGT1A5 | drug\_meta | 1.88E+09 | 1.88E+09 | 1873 |
| UGT1A5 | drug\_meta | 1.88E+09 | 1.88E+09 | 1873 |
| UGT1A6 | drug\_meta | 1.88E+09 | 1.88E+09 | 3361 |
| UGT1A6 | drug\_meta | 1.88E+09 | 1.88E+09 | 3361 |
| UGT1A7 | drug\_meta | 2.11E+09 | 2.11E+09 | 1951 |
| UGT1A7 | drug\_meta | 2.11E+09 | 2.11E+09 | 1951 |
| UGT1A8 | drug\_meta | 2.11E+09 | 2.11E+09 | 1982 |
| UGT1A8 | drug\_meta | 2.11E+09 | 2.11E+09 | 1982 |
| UGT1A9 | drug\_meta | 2.11E+09 | 2.11E+09 | 2044 |
| UGT1A9 | drug\_meta | 2.11E+09 | 2.11E+09 | 2044 |
| UGT2A1 | drug\_meta | 8.46E+08 | 8.46E+08 | 3436 |
| UGT2A1 | drug\_meta | 8.46E+08 | 8.46E+08 | 3436 |
| UGT2A2 | drug\_meta | 7.05E+08 | 7.05E+08 | 2578 |
| UGT2A2 | drug\_meta | 7.05E+08 | 7.05E+08 | 2578 |
| UGT2A3 | drug\_meta | 1.05E+09 | 1.05E+09 | 2590 |
| UGT2A3 | drug\_meta | 1.05E+09 | 1.05E+09 | 2590 |
| UGT2B10 | drug\_meta | 8.37E+08 | 8.37E+08 | 1465 |
| UGT2B10 | drug\_meta | 8.37E+08 | 8.37E+08 | 1465 |
| UGT2B11 | drug\_meta | 2.1E+08 | 2.1E+08 | 280 |
| UGT2B11 | drug\_meta | 2.1E+08 | 2.1E+08 | 280 |
| UGT2B15 | drug\_meta | 1.11E+09 | 1.11E+09 | 1802 |
| UGT2B15 | drug\_meta | 1.11E+09 | 1.11E+09 | 1802 |
| UGT2B17 | drug\_meta | 8.33E+08 | 8.33E+08 | 1576 |
| UGT2B17 | drug\_meta | 8.33E+08 | 8.33E+08 | 1576 |
| UGT2B28 | drug\_meta | 1.4E+08 | 1.4E+08 | 301 |
| UGT2B28 | drug\_meta | 1.4E+08 | 1.4E+08 | 301 |
| UGT2B4 | drug\_meta | 7.74E+08 | 7.74E+08 | 1593 |
| UGT2B4 | drug\_meta | 7.74E+08 | 7.74E+08 | 1593 |
| UGT2B7 | drug\_meta | 7E+08 | 7E+08 | 1241 |
| UGT2B7 | drug\_meta | 7E+08 | 7E+08 | 1241 |
| UMPS | drug\_meta | 1.62E+09 | 1.62E+09 | 2810 |
| UPB1 | drug\_meta | 3.74E+08 | 3.74E+08 | 3110 |
| UPP1 | drug\_meta | 4.33E+08 | 4.33E+08 | 1713 |
| UPP2 | drug\_meta | 1.75E+09 | 1.75E+09 | 2786 |

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| VDAC1 | Calcium sig | 1.33E+09 | 1.33E+09 | 1129 |
| VDAC2 | Calcium sig | 1.23E+09 | 1.23E+09 | 2443 |
| VDAC3 | Calcium sig | 4.65E+08 | 4.65E+08 | 1962 |
| XDH | drug\_meta | 1.33E+09 | 1.33E+09 | 8542 |
| ZAK | MAPK path | 5.05E+09 | 5.05E+09 | 10354 |