

| Category | Term | Count | % | PValue | Genes | List Total | Pop Hits | Pop Total | Fold Enrichment | Bonferroni | Benjamini | FDR |
|------------------|----------------------|-------|------------|----------|--|------------|----------|-----------|-----------------|------------|-----------|----------|
| GOTERM_CC_DIRECT | extracellular space | 33 | 33.6734694 | 1.76E-13 | CRP, CXCL8, PONT1, SERPINE1, HSPB1, MPO, TNF, EGFR, ICAM1, THBD, IGHG1, PLAUI, SPP1, CCL2, HMOX1, XDH, CTSD, TGFB1, VCAM1, MMP2, IGFBP3, F2, SELE, MMP9, F3, SOD1, IL1A, CXCL10, COL3A1 | 98 | 1347 | 18224 | 4.55579292 | 3.92E-11 | 3.92E-11 | 3.48E-11 |
| GOTERM_CC_DIRECT | membrane raft | 15 | 15.3061224 | 4.38E-12 | OPRD1, CAV1, SLC2A4, OPRM1, SELE, TNF, SLC6A3, EGFR, SLC6A4, ICAM1, DPP4, IKBKB, CASP8, CASP3, CTSD | 98 | 206 | 18224 | 13.5407173 | 9.72E-10 | 4.86E-10 | 4.31E-10 |
| GOTERM_CC_DIRECT | cytosol | 43 | 43.877551 | 8.81E-09 | GSK3B, CDKN1A, NR1H3, PTEN, HSPB1, HTR2A, SLC2A4, RELA, ACACA, SLC6A4, CASP9, IKBKB, PPP3CA, MAPK8, CASP8, CCND1, MYC, CASP3, AKT1, HMOX1, XDH, NQO1, PTPN1, JUN, HSP90AA1, GSTM1, NOS2, CHUK, STAT1, AHS1, PRKCA, FOS, MAPK14, SOD1, IL1A, IRF1, IL1B, BCL2, BAX, BIRC5, BRAPC, TRAF2, CRP, PRSS1, CXCL8, PONT1 | 98 | 3315 | 18224 | 2.41214024 | 1.96E-06 | 6.52E-07 | 5.79E-07 |
| GOTERM_CC_DIRECT | extracellular region | 27 | 27.5510204 | 1.90E-07 | SERPINE1, PTEN, TNF, IGHG1, PLAUI, SPP1, CCL2, CTSD, HSP90AA1, TGFB1, MMP1, MMP2, IGFBP3, F2, MMP9, SOD1, IL1A, CXCL10, COL3A1, CXCL11, IL6, IFNG, IL1B | 98 | 1610 | 18224 | 3.11857016 | 4.21E-05 | 1.05E-05 | 9.35E-06 |
| GOTERM_CC_DIRECT | extracellular matrix | 11 | 11.2244898 | 3.97E-06 | COL3A1, HSP90AA1, TGFB1, HSPA5, MMP1, MMP2, SERPINE1, HSPB1, CTSD, F3 | 98 | 296 | 18224 | 6.91064534 | 8.81E-04 | 1.50E-04 | 1.33E-04 |
| GOTERM_CC_DIRECT | neuron projection | 10 | 10.2040816 | 4.84E-06 | OPRD1, HSP90AA1, CASP8, IFNG, PTEN, FOS, OPRM1, PTGS2, SLC6A3, SLC6A4 | 98 | 237 | 18224 | 7.84637906 | 0.001073 | 1.50E-04 | 1.33E-04 |
| GOTERM_CC_DIRECT | postsynapse | 5 | 5.10204082 | 5.13E-06 | GABRA2, GSK3B, PPP3CA, AKT1, OPRM1 | 98 | 22 | 18224 | 42.2634508 | 0.00113719 | 1.50E-04 | 1.33E-04 |

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|----------------------|----------------------------------|----|------------|----------|---|----|------|-------|------------|------------|------------|------------|
| GOTERM_ CC_DIRECT | mitochondrion | 22 | 22.4489796 | 5.40E-06 | GSK3B, HSPA5, MMP2, PTEN, PRKCA, MAPK14, MPO, ELK1, SIRT1, ACACA, SOD1, CASP9, PPP3CA, MAPK8, CASP8, MYC, CYP1A1, BCL2, BAX, CYP1B1, AKT1, TP53 | 98 | 1331 | 18224 | 3.07370552 | 0.00119792 | 1.50E-04 | 1.33E-04 |
| GOTERM_ CC_DIRECT | external side of plasma membrane | 9 | 9.18367347 | 1.81E-05 | CXCL10, IL6, IGHG1, VCAM1, IFNG, SLC2A4, TNF, LDLR, ICAM1 | 98 | 213 | 18224 | 7.8574303 | 0.00400902 | 4.46E-04 | 3.96E-04 |
| GOTERM_ CC_DIRECT | caveola | 6 | 6.12244898 | 2.47E-05 | CAV1, INSR, HMOX1, HTR2A, PTGS2, SELE | 98 | 65 | 18224 | 17.1654631 | 0.00546894 | 5.01E-04 | 4.44E-04 |
| GOTERM_ CC_DIRECT | perinuclear region of cytoplasm | 14 | 14.2857143 | 2.48E-05 | GSK3B, CDKN1A, HSP90AA1, NOS2, STAT1, CAV1, PRKCA, SLC2A4, SELE, EGFR, SPP1, CCL2, HMOX1, PPARG | 98 | 621 | 18224 | 4.19231654 | 0.00549486 | 5.01E-04 | 4.44E-04 |
| GOTERM_ CC_DIRECT | cell surface | 13 | 13.2653061 | 3.03E-05 | HSP90AA1, TGFB1, VCAM1, HSPA5, F3, TNF, SLC6A3, EGFR, ICAM1, DPP4, THBD, PLAU, OPK1, CHRM3, GSK3B, SERPINE1, PTEN, HSPB1, ADRB1, ADRB2, HTR2A, SLC2A4, TNF, SLC6A3, EGFR, SLC6A4, ICAM1, DPP4, THBD, PLAU, CASP3, AKT1, HMOX1, DRD1, LDLR, GABRA2, PTPN1, MGAM, HSP90AA1, TGFB1, VCAM1, HSPA5, CAV1, MMP2, INSR, PRKCA, OPRM1, F2, SELE | 98 | 542 | 18224 | 4.46027562 | 0.00671261 | 5.27E-04 | 4.67E-04 |
| GOTERM_ CC_DIRECT | plasma membrane | 41 | 41.8367347 | 3.08E-05 | OPK1, CHRM3, GSK3B, SERPINE1, PTEN, HSPB1, ADRB1, ADRB2, HTR2A, SLC2A4, TNF, SLC6A3, EGFR, SLC6A4, ICAM1, DPP4, THBD, PLAU, CASP3, AKT1, HMOX1, DRD1, LDLR, GABRA2, PTPN1, MGAM, HSP90AA1, TGFB1, VCAM1, HSPA5, CAV1, MMP2, INSR, PRKCA, OPRM1, F2, SELE | 98 | 4121 | 18224 | 1.85011563 | 0.00682148 | 5.27E-04 | 4.67E-04 |
| GOTERM_ CC_DIRECT | nucleoplasm | 31 | 31.6326531 | 7.60E-05 | CDKN1A, NR1H3, NR1H2, PTEN, AHR, ELK1, RELA, PPP3CA, MAPK8, CASP8, RXRA, CCND1, MYC, CASP3, AKT1, JUN, HSP90AA1, CHUK, STAT1, PRKCA, FOS, MAPK14, ESR1, SIRT1, SOD1, IRF1, BIRC5, PPARG, PPARG, TP53, PPARG | 98 | 2784 | 18224 | 2.0706662 | 0.01673375 | 0.00114018 | 0.00101178 |

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|----------------------|------------------------------|----|------------|----------|---|----|------|-------|------------|------------|------------|------------|
| GOTERM_ CC_DIRECT | nuclear chromatin | 8 | 8.16326531 | 7.70E-05 | RXRA, STAT1, IRF1, ESR1, SIRT1, TP53, RELA, PPARD | 98 | 193 | 18224 | 7.70815269 | 0.01695793 | 0.00114018 | 0.00101178 |
| GOTERM_ CC_DIRECT | extracellul ar exosome | 30 | 30.6122449 | 2.28E-04 | CRP, PRSS1, PONT, SERPINE1, HSPB1, SLC2A4, MPO, ACACA, ICAM1, DPP4, IGHG1, PLAU, SPP1, CTSD, NQO1, MGAM, HSP90AA1, VCAM1, HSPA5, IGFBP3, INSR, AHS1, PRKCA, MAPK14, F2, MMP9, F3, SOD1, IL1B, BAX | 98 | 2811 | 18224 | 1.98462309 | 0.04938233 | 0.00316485 | 0.00280844 |
| GOTERM_ CC_DIRECT | neuronal cell body | 9 | 9.18367347 | 2.78E-04 | GABRA2, NQO1, GSK3B, HSP90AA1, TGFB1, HTR2A, ELK1, SLC6A3, SOD1 | 98 | 315 | 18224 | 5.31311953 | 0.05980455 | 0.003627 | 0.00321855 |
| GOTERM_ CC_DIRECT | nucleus | 46 | 46.9387755 | 3.75E-04 | GSK3B, CDKN1A, NR1H3, NR1H2, PTEN, HSPB1, AHR, ADRB2, PTGS2, MPO, ELK1, RELA, EGFR, CASP9, IKBKB, PPP3CA, MAPK8, RXRA, CCND1, MYC, CASP3, AKT1, HMOX1, DRD1, JUN, HSP90AA1, TGFB1, NOS2, HSPA5, STAT1, MMP2, IGFBP3, FOS, MAPK14, ESR1, SIRT1, SOD1, IRF1, BCL2, BAX, BIRC5, PPARG, PPARGA, TP53, PPARG | 98 | 5415 | 18224 | 1.57970867 | 0.07982918 | 0.00462113 | 0.00410073 |
| GOTERM_ CC_DIRECT | endoplasm ic reticulum | 13 | 13.2653061 | 0.001466 | PTPN1, VCAM1, HSPA5, CAV1, AHS1, PRKCA, FOS, OPRM1, PTGS2, BCL2, BAX, HMOX1, | 98 | 828 | 18224 | 2.91964902 | 0.27790031 | 0.01712386 | 0.0151955 |
| GOTERM_ CC_DIRECT | axon terminus | 4 | 4.08163265 | 0.002125 | OPRD1, CHRM3, CCL2, ELK1 | 98 | 48 | 18224 | 15.4965986 | 0.37646937 | 0.02359276 | 0.02093592 |
| GOTERM_ CC_DIRECT | apical plasma membrane | 7 | 7.14285714 | 0.004623 | DPP4, HSP90AA1, MGAM, CAV1, PTEN, ADRB2, EGFR | 98 | 291 | 18224 | 4.47324497 | 0.64251471 | 0.04707054 | 0.04176981 |
| GOTERM_ CC_DIRECT | receptor complex | 5 | 5.10204082 | 0.004731 | RXRA, INSR, ADRB2, LDLR, EGFR | 98 | 127 | 18224 | 7.3212277 | 0.65103429 | 0.04707054 | 0.04176981 |
| GOTERM_ CC_DIRECT | focal adhesion | 8 | 8.16326531 | 0.004877 | DPP4, HSPA5, PLAU, CAV1, HSPB1, OPRM1, EGFR, ICAM1 | 98 | 391 | 18224 | 3.80479148 | 0.66218974 | 0.04707054 | 0.04176981 |

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|----------------------|--|----|------------|----------|--|----|------|-------|------------|------------|------------|------------|
| GOTERM_ CC_DIRECT | protein complex | 8 | 8.16326531 | 0.006448 | CDKN1A, HSP90AA1, MYC, CAV1, AKT1, PTGS2, TP53, SOD1 | 98 | 412 | 18224 | 3.61085794 | 0.76212497 | 0.05964064 | 0.05292435 |
| GOTERM_ CC_DIRECT | lysosome | 6 | 6.12244898 | 0.007185 | IL1B, ADRB2, MPO, CTSD, LDLR, SOD1 | 98 | 226 | 18224 | 4.93696948 | 0.79825112 | 0.06379897 | 0.0566144 |
| GOTERM_ CC_DIRECT | integral component of plasma membrane | 16 | 16.3265306 | 0.007676 | OPRD1, CHRM3, CAV1, INSR, ADRB1, SLC2A4, ADRB2, HTR2A, OPRM1, TNF, SLC6A3, SLC6A4, ICAM1, THBD, DRD1, | 98 | 1415 | 18224 | 2.10271868 | 0.81925627 | 0.06554235 | 0.05816145 |
| GOTERM_ CC_DIRECT | blood microparticle | 5 | 5.10204082 | 0.00885 | PRSS1, IGHG1, TGFB1, PON1, F2 | 98 | 152 | 18224 | 6.11707841 | 0.86102821 | 0.0727681 | 0.06457349 |
| GOTERM_ CC_DIRECT | organelle membrane | 4 | 4.08163265 | 0.011222 | CYP1A1, CYP1B1, CYP3A4, PTGS2 | 98 | 87 | 18224 | 8.54984753 | 0.91835821 | 0.08897605 | 0.07895623 |
| GOTERM_ CC_DIRECT | basolateral plasma membrane | 5 | 5.10204082 | 0.015658 | CHRM3, HSP90AA1, CAV1, LDLR, EGFR | 98 | 180 | 18224 | 5.16553288 | 0.96991344 | 0.11704825 | 0.10386714 |
| GOTERM_ CC_DIRECT | cytoplasm | 39 | 39.7959184 | 0.016319 | OPRD1, GSK3B, NR1H3, PTEN, HSPB1, AHR, CYP3A4, PTGS2, SLC6A3, RELA, ACACA, EGFR, IKBKB, PPP3CA, CASP8, CCND1, CASP3, AKT1, NQO1, HSP90AA1, TGFB1, GSTM1, NOS2, CHUK, STAT1, AHS1, PRKCA, MAPK14, ESR1, SIRT1, SOD1, IL6, IFNG, IRF1, BCL2, BAX, BIRC5, TP53, NFE2L2 | 98 | 5222 | 18224 | 1.38881811 | 0.97407759 | 0.11704825 | 0.10386714 |
| GOTERM_ CC_DIRECT | endoplasmic reticulum | 11 | 11.2244898 | 0.016345 | HSPA5, CAV1, BCL2, CYP1A1, BAX, CYP1B1, HMOX1, DRD1, CYP3A4, PTGS2, EGFR | 98 | 862 | 18224 | 2.37302903 | 0.97422824 | 0.11704825 | 0.10386714 |
| GOTERM_ CC_DIRECT | cytoplasmic side of plasma membrane | 3 | 3.06122449 | 0.021027 | IKBKB, CHUK, PTEN | 98 | 42 | 18224 | 13.2827988 | 0.99106433 | 0.14587281 | 0.1294457 |
| GOTERM_ CC_DIRECT | axon | 5 | 5.10204082 | 0.030855 | GABRA2, TGFB1, STAT1, HTR2A, SLC6A3 | 98 | 222 | 18224 | 4.1882699 | 0.99904874 | 0.20757042 | 0.18419537 |

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| GOTERM_ CC_DIRECT | dendrite | 6 | 6.12244898 | 0.033335 | GABRA2, CHRM3, STAT1, CCL2, HTR2A, ELK1 | 98 | 335 | 18224 | 3.33061224 | 0.99946139 | 0.20813939 | 0.18470027 |
| GOTERM_ CC_DIRECT | endocytic vesicle | 3 | 3.06122449 | 0.033543 | DPP4, CCL2, EGFR | 98 | 54 | 18224 | 10.3310658 | 0.99948647 | 0.20813939 | 0.18470027 |
| GOTERM_ CC_DIRECT | early endosome | 5 | 5.10204082 | 0.034008 | PTPN1, VCAM1, ADRB1, ADRB2, LDLR | 98 | 229 | 18224 | 4.06024419 | 0.99953857 | 0.20813939 | 0.18470027 |
| GOTERM_ CC_DIRECT | clathrin- coated pit | 3 | 3.06122449 | 0.03469 | SLC2A4, SELE, LDLR | 98 | 55 | 18224 | 10.1432282 | 0.99960551 | 0.20813939 | 0.18470027 |
| GOTERM_ CC_DIRECT | death- inducing signaling complex | 2 | 2.04081633 | 0.036675 | CASP8, CASP3 | 98 | 7 | 18224 | 53.1311953 | 0.9997502 | 0.21425809 | 0.19012993 |
| GOTERM_ CC_DIRECT | pore complex | 2 | 2.04081633 | 0.046907 | BCL2, BAX | 98 | 9 | 18224 | 41.324263 | 0.99997666 | 0.26384982 | 0.23413701 |
| GOTERM_ CC_DIRECT | myelin sheath | 4 | 4.08163265 | 0.047541 | HSP90AA1, HSPA5, BCL2, SOD1 | 98 | 152 | 18224 | 4.89366273 | 0.99997987 | 0.26384982 | 0.23413701 |