**Table S1. List of 85 genes examined**

|  |  |
| --- | --- |
| **Gene Symbol** | **Official Full Name** |
| ATF4 | Activating transcription factor 4 (tax-responsive enhancer element B67) |
| CEBPA | CCAAT/enhancer binding protein (C/EBP), alpha |
| CEBPB | CCAAT/enhancer binding protein (C/EBP), beta |
| CREB1 | CAMP responsive element binding protein 1 |
| CREB3 | CAMP responsive element binding protein 3 |
| CREB3L4 | CAMP responsive element binding protein 3-like 4 |
| NR3C1 | Nuclear receptor subfamily 3, group C, member 1 (glucocorticoid receptor) |
| POU2F1 | POU class 2 homeobox 1 |
| POU2F2 | POU class 2 homeobox 2 |
| STAT5A | Signal transducer and activator of transcription 5A |
| STAT5B | Signal transducer and activator of transcription 5B |
| EDN1 | Endothelin 1 |
| IL10 | Interleukin 10 |
| IL1RN | Interleukin 1 receptor antagonist |
| IL6 | Interleukin 6 (interferon, beta 2) |
| IL6R | Interleukin 6 receptor |
| TNF | Tumor necrosis factor |
| ANGPTL4 | Angiopoietin-like 4 |
| CTGF | Connective tissue growth factor |
| OXTR | Oxytocin receptor |
| HAS2 | Hyaluronan synthase 2 |
| LOX | Lysyl oxidase |
| CALCR | CALCITONIN RECEPTOR |
| GHRHR | Growth hormone releasing hormone receptor |
| PDGFRB | Platelet-derived growth factor receptor, beta polypeptide |
| AVPR1B | Arginine vasopressin receptor 1B |
| AQP1 | Aquaporin 1 (Colton blood group) |
| SLC10A6 | Solute carrier family 10 (sodium/bile acid cotransporter family), member 6 |
| SLC19A2 | Solute carrier family 19 (thiamine transporter), member 2 |
| SLC22A5 | Solute carrier family 22 (organic cation/carnitine transporter), member 5 |
| BMPER | BMP binding endothelial regulator |
| DIRAS2 | DIRAS family, GTP-binding RAS-like 2 |
| DUSP1 | Dual specificity phosphatase 1 |
| PIK3R1 | Phosphoinositide-3-kinase, regulatory subunit 1 (alpha) |
| PLD1 | Phospholipase D1, phosphatidylcholine-specific |
| RASA3 | RAS p21 protein activator 3 |
| SPHK1 | Sphingosine kinase 1 |
| USP2 | Ubiquitin specific peptidase 2 |
| LNPEP | Leucyl/cystinyl aminopeptidase |
| DDIT4 | DNA-damage-inducible transcript 4 |
| PDCD7 | Programmed cell death 7 |
| SESN1 | Sestrin 1 |
| SGK1 | Serum/glucocorticoid regulated kinase 1 |
| ARID5B | AT rich interactive domain 5B (MRF1-like) |
| FOSL2 | FOS-like antigen 2 |
| KLF13 | Kruppel-like factor 13 |
| KLF9 | Kruppel-like factor 9 |
| NFKBIA | Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha |
| TBL1XR1 | Transducin (beta)-like 1 X-linked receptor 1 |
| TNFAIP3 | Tumor necrosis factor, alpha-induced protein 3 |
| TSC22D3 | TSC22 domain family, member 3 |
| VDR | Vitamin D (1,25- dihydroxyvitamin D3) receptor |
| ZFP36 | Zinc finger protein 36, C3H type, homolog (mouse) |
| ZHX3 | Zinc fingers and homeoboxes 3 |
| PER1 | Period homolog 1 (Drosophila) |
| PER2 | Period homolog 2 (Drosophila) |
| FKBP5 | FK506 binding protein 5 |
| NRG1 | Neuregulin 1 |
| CYB561 | Cytochrome b-561 |
| ERRFI1 | ERBB receptor feedback inhibitor 1 |
| SPSB1 | SplA/ryanodine receptor domain and SOCS box containing 1 |
| USP54 | Ubiquitin specific peptidase 54 |
| ZNF281 | Zinc finger protein 281 |
| AKR1D1 | Aldo-keto reductase family 1, member D1 (delta 4-3-ketosteroid-5-beta-reductase) |
| CYP11A1 | Cytochrome P450, family 11, subfamily A, polypeptide 1 |
| HSD3B1 | Hydroxy-delta-5-steroid dehydrogenase, 3 beta- and steroid delta-isomerase 1 |
| CYP17A1 | Cytochrome P450, family 17, subfamily A, polypeptide 1 |
| CYP11B1 | Cytochrome P450, family 11, subfamily B, polypeptide 1 |
| HSD11B1 | Hydroxysteroid (11-beta) dehydrogenase 1 |
| HSD11B2 | Hydroxysteroid (11-beta) dehydrogenase 2 |
| NPY | Neuropeptide Y |
| SLC6A4 | Solute carrier family 6 (neurotransmitter transporter, serotonin), member 4 |
| SLC6A2 | Solute carrier family 6 (neurotransmitter transporter, noradrenalin), member 2 |
| SLC6A1 | Solute carrier family 6 (neurotransmitter transporter, GABA), member 1 |
| IL1B | Interleukin 1, beta |
| GSR | Glutathione reductase |
| COMT | Catechol-O-methyltransferase |
| IL2 | Interleukin 2 |
| CACNA1C | Calcium channel, voltage-dependent, L type, alpha 1C subunit |
| ABCB1 | ATP-binding cassette, sub-family B (MDR/TAP), member 1 |
| PLEKHF1 | Pleckstrin homology domain containing, family F (with FYVE domain) member 1 |
| ADARB1 | Adenosine deaminase, RNA-specific, B1 |
| MT2A | Metallothionein 2A |
| GLUL | Glutamate-ammonia ligase |
| RHOB | Ras homolog gene family, member B |

**Table S2. Fold-changes and p-values for 85 genes between cases and controls in the full sample**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Gene Symbol** | **Fold Change** | **95% CI** | **praw** | **Pcorrected** |
| FOSL2 | 0.72 | ( 0.57, 0.88 ) | 0.007237\* | 0.615145 |
| HSD3B1 | 1.15 | ( 1.00, 1.31 ) | 0.042481\* | 1.0 |
| NPY | 0.42 | ( 0.11, 0.72 ) | 0.042991\* | 1.0 |
| GSR | 1.53 | ( 0.94, 2.12 ) | 0.050113 |  |
| CTGF | 0.61 | ( 0.36, 0.86 ) | 0.051544 |  |
| DIRAS2 | 0.30 | ( 0.01, 0.58 ) | 0.051869 |  |
| AQP1 | 0.68 | ( 0.39, 0.98 ) | 0.066075 |  |
| TSC22D3 | 0.66 | ( 0.35, 0.96 ) | 0.069401 |  |
| GHRHR | 0.75 | ( 0.52, 0.98 ) | 0.097009 |  |
| SLC6A1 | 0.69 | ( 0.35, 1.03 ) | 0.100831 |  |
| FKBP5 | 0.70 | ( 0.30, 1.11 ) | 0.112923 |  |
| SPSB1 | 0.81 | ( 0.59, 1.02 ) | 0.118907 |  |
| CALCR | 1.31 | ( 0.85, 1.78 ) | 0.122892 |  |
| NRG1 | 0.67 | ( 0.21, 1.12 ) | 0.146861 |  |
| PER2 | 0.88 | ( 0.70, 1.06 ) | 0.170209 |  |
| PIK3R1 | 0.88 | ( 0.72, 1.04 ) | 0.175286 |  |
| OXTR | 0.80 | ( 0.30, 1.30 ) | 0.177414 |  |
| TNF | 1.13 | ( 0.41, 1.85 ) | 0.181660 |  |
| ZHX3 | 0.86 | ( 0.62, 1.09 ) | 0.205643 |  |
| USP54 | 1.09 | ( 0.92, 1.25 ) | 0.209997 |  |
| GLUL | 0.90 | ( 0.74, 1.06 ) | 0.214502 |  |
| POU2F1 | 1.11 | ( 0.89, 1.33 ) | 0.217946 |  |
| TBL1XR1 | 1.08 | ( 0.95, 1.21 ) | 0.221975 |  |
| USP2 | 0.83 | ( 0.50, 1.15 ) | 0.247206 |  |
| CEBPA | 0.87 | ( 0.67, 1.07 ) | 0.255970 |  |
| SLC6A2 | 1.12 | ( 0.79, 1.44 ) | 0.262539 |  |
| PER1 | 0.84 | ( 0.59, 1.10 ) | 0.267888 |  |
| ANGPTL4 | 1.10 | ( 0.89, 1.31 ) | 0.269665 |  |
| CACNA1C | 0.87 | ( 0.60, 1.13 ) | 0.273871 |  |
| AKR1D1 | 0.89 | ( 0.71, 1.07 ) | 0.276378 |  |
| IL2 | 1.20 | ( 0.63, 1.78 ) | 0.277092 |  |
| SLC19A2 | 1.07 | ( 0.94, 1.20 ) | 0.280833 |  |
| ERRFI1 | 1.19 | ( 0.78, 1.59 ) | 0.284175 |  |
| ARID5B | 0.91 | ( 0.77, 1.05 ) | 0.295290 |  |
| IL1RN | 1.21 | ( 0.57, 1.85 ) | 0.301933 |  |
| CYP11A1 | 1.10 | ( 0.87, 1.32 ) | 0.305197 |  |
| HAS2 | 1.46 | ( 0.66, 2.26 ) | 0.307323 |  |
| KLF9 | 0.84 | ( 0.47, 1.20 ) | 0.309539 |  |
| SLC10A6 | 1.13 | ( 0.86, 1.41 ) | 0.317865 |  |
| KLF13 | 0.93 | ( 0.82, 1.04 ) | 0.319280 |  |
| ZFP36 | 0.89 | ( 0.64, 1.15 ) | 0.320554 |  |
| DUSP1 | 0.87 | ( 0.64, 1.10 ) | 0.335330 |  |
| IL1B | 1.13 | ( 0.73, 1.54 ) | 0.381931 |  |
| CYP17A1 | 0.74 | ( 0.27, 1.22 ) | 0.411633 |  |
| IL6 | 1.14 | ( 0.82, 1.47 ) | 0.429353 |  |
| HSD11B2 | 1.10 | ( 0.75, 1.46 ) | 0.434664 |  |
| SLC6A4 | 1.09 | ( 0.88, 1.30 ) | 0.451412 |  |
| POU2F2 | 1.08 | ( 0.73, 1.44 ) | 0.452819 |  |
| ATF4 | 0.95 | ( 0.82, 1.09 ) | 0.470618 |  |
| PDCD7 | 1.03 | ( 0.94, 1.12 ) | 0.471059 |  |
| HSD11B1 | 0.93 | ( 0.60, 1.25 ) | 0.485899 |  |
| NR3C1 | 0.95 | ( 0.79, 1.11 ) | 0.497715 |  |
| PLD1 | 0.94 | ( 0.73, 1.15 ) | 0.501449 |  |
| AVPR1B | 0.96 | ( 0.40, 1.52 ) | 0.517685 |  |
| SGK1 | 1.04 | ( 0.83, 1.25 ) | 0.533919 |  |
| VDR | 1.14 | ( 0.76, 1.52 ) | 0.588771 |  |
| MT2A | 2.22 | ( 0.00001, 5.15 ) | 0.612507 |  |
| PLEKHF1 | 1.11 | ( 0.84, 1.38 ) | 0.615791 |  |
| IL10 | 0.84 | ( 0.46, 1.23 ) | 0.620971 |  |
| COMT | 0.97 | ( 0.86, 1.09 ) | 0.631629 |  |
| RASA3 | 1.06 | ( 0.81, 1.32 ) | 0.631885 |  |
| CREB3L4 | 0.97 | ( 0.85, 1.10 ) | 0.641009 |  |
| SESN1 | 0.96 | ( 0.77, 1.15 ) | 0.655033 |  |
| SLC22A5 | 1.06 | ( 0.83, 1.29 ) | 0.658637 |  |
| LOX | 1.02 | ( 0.63, 1.41 ) | 0.659791 |  |
| CYP11B1 | 0.94 | ( 0.62, 1.27 ) | 0.685321 |  |
| STAT5A | 1.03 | ( 0.84, 1.22 ) | 0.723662 |  |
| CREB3 | 1.02 | ( 0.90, 1.13 ) | 0.732708 |  |
| EDN1 | 1.04 | ( 0.64, 1.43 ) | 0.739258 |  |
| LNPEP | 1.01 | ( 0.81, 1.21 ) | 0.742547 |  |
| BMPER | 0.98 | ( 0.68, 1.28 ) | 0.760414 |  |
| RHOB | 0.99 | ( 0.82, 1.16 ) | 0.771126 |  |
| ADARB1 | 1.05 | ( 0.80, 1.30 ) | 0.785458 |  |
| SPHK1 | 1.07 | ( 0.80, 1.35 ) | 0.805661 |  |
| TNFAIP3 | 1.04 | ( 0.82, 1.26 ) | 0.815381 |  |
| IL6R | 0.92 | ( 0.63, 1.21 ) | 0.842587 |  |
| CYB561 | 0.98 | ( 0.86, 1.11 ) | 0.869753 |  |
| PDGFRB | 0.98 | ( 0.76, 1.20 ) | 0.916835 |  |
| ABCB1 | 1.00 | ( 0.53, 1.47 ) | 0.943909 |  |
| STAT5B | 0.98 | ( 0.80, 1.15 ) | 0.957083 |  |
| CEBPB | 0.99 | ( 0.79, 1.18 ) | 0.962388 |  |
| DDIT4 | 1.00 | ( 0.55, 1.45 ) | 0.962857 |  |
| NFKBIA | 0.99 | ( 0.87, 1.12 ) | 0.977081 |  |
| ZNF281 | 1.00 | ( 0.87, 1.12 ) | 0.990199 |  |
| CREB1 | 1.00 | ( 0.88, 1.13 ) | 0.992595 |  |

**Table S3. Fold-changes and p-values for 85 genes between cases and controls in the without labour group**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Gene Symbol** | **Fold Change** | **95% CI** | **praw** | **pcorrected** |
| SLC10A6 | 1.67 | ( 1.26, 2.09 ) | 0.008032\* | 0.682720 |
| PER1 | 0.77 | ( 0.64, 0.90 ) | 0.018734\* | 0.796195 |
| CYP11A1 | 1.31 | ( 1.08, 1.54 ) | 0.021553\* | 0.610668 |
| CEBPA | 1.32 | ( 1.10, 1.54 ) | 0.021879\* | 0.464929 |
| CTGF | 0.65 | ( 0.44, 0.85 ) | 0.024027\* | 0.408459 |
| HSD11B2 | 1.42 | ( 1.09, 1.74 ) | 0.030257\* | 0.428641 |
| MT2A | 10.72 | ( 0.00001, 37.63 ) | 0.041159\* | 0.499788 |
| STAT5A | 1.24 | ( 1.01, 1.48 ) | 0.052921 |  |
| NR3C1 | 0.85 | ( 0.67, 1.02 ) | 0.101011 |  |
| EDN1 | 0.70 | ( 0.43, 0.97 ) | 0.110150 |  |
| HSD11B1 | 0.68 | ( 0.32, 1.04 ) | 0.120464 |  |
| IL1RN | 2.69 | ( 0.70, 4.68 ) | 0.137667 |  |
| GLUL | 1.16 | ( 0.98, 1.35 ) | 0.137705 |  |
| HSD3B1 | 1.15 | ( 0.94, 1.37 ) | 0.148367 |  |
| DIRAS2 | 0.50 | ( 0.00001, 1.22 ) | 0.151421 |  |
| NPY | 1.74 | ( 0.43, 3.06 ) | 0.165109 |  |
| VDR | 1.42 | ( 0.67, 2.16 ) | 0.180348 |  |
| FOSL2 | 0.87 | ( 0.74, 1.01 ) | 0.190792 |  |
| TNF | 1.69 | ( 0.65, 2.72 ) | 0.202875 |  |
| OXTR | 0.52 | ( 0.00001, 1.07 ) | 0.261653 |  |
| CYP17A1 | 0.58 | ( 0.00001, 1.20 ) | 0.271545 |  |
| SPSB1 | 0.77 | ( 0.50, 1.04 ) | 0.277381 |  |
| TNFAIP3 | 1.13 | ( 0.89, 1.37 ) | 0.293772 |  |
| HAS2 | 0.69 | ( 0.20, 1.18 ) | 0.296115 |  |
| SLC6A4 | 1.17 | ( 0.82, 1.52 ) | 0.296479 |  |
| BMPER | 0.85 | ( 0.44, 1.26 ) | 0.304424 |  |
| PDGFRB | 0.87 | ( 0.59, 1.14 ) | 0.305334 |  |
| AVPR1B | 1.86 | ( 0.32, 3.40 ) | 0.313151 |  |
| IL2 | 1.49 | ( 0.29, 2.69 ) | 0.317769 |  |
| IL1B | 1.33 | ( 0.62, 2.04 ) | 0.318553 |  |
| CREB3L4 | 0.93 | ( 0.77, 1.09 ) | 0.326389 |  |
| ERRFI1 | 1.23 | ( 0.71, 1.74 ) | 0.331822 |  |
| SLC22A5 | 1.15 | ( 0.83, 1.46 ) | 0.357529 |  |
| ATF4 | 0.91 | ( 0.77, 1.06 ) | 0.357892 |  |
| IL10 | 1.24 | ( 0.59, 1.90 ) | 0.369697 |  |
| ZFP36 | 1.12 | ( 0.82, 1.42 ) | 0.381684 |  |
| POU2F2 | 1.26 | ( 0.63, 1.89 ) | 0.384450 |  |
| ARID5B | 0.91 | ( 0.75, 1.06 ) | 0.401767 |  |
| CEBPB | 1.12 | ( 0.84, 1.39 ) | 0.406073 |  |
| LNPEP | 1.12 | ( 0.84, 1.40 ) | 0.408372 |  |
| PER2 | 0.88 | ( 0.63, 1.12 ) | 0.409948 |  |
| NFKBIA | 1.07 | ( 0.92, 1.23 ) | 0.410957 |  |
| CREB3 | 0.96 | ( 0.87, 1.06 ) | 0.435132 |  |
| KLF9 | 1.12 | ( 0.72, 1.53 ) | 0.448378 |  |
| CACNA1C | 0.83 | ( 0.44, 1.23 ) | 0.476187 |  |
| TSC22D3 | 0.88 | ( 0.56, 1.20 ) | 0.483033 |  |
| CREB1 | 0.96 | ( 0.82, 1.10 ) | 0.487494 |  |
| ZHX3 | 0.94 | ( 0.61, 1.26 ) | 0.504881 |  |
| USP54 | 0.92 | ( 0.75, 1.09 ) | 0.562744 |  |
| RHOB | 1.08 | ( 0.84, 1.31 ) | 0.562770 |  |
| SLC19A2 | 0.97 | ( 0.83, 1.10 ) | 0.616075 |  |
| PLD1 | 1.07 | ( 0.79, 1.36 ) | 0.629873 |  |
| CYB561 | 1.04 | ( 0.87, 1.21 ) | 0.664239 |  |
| DDIT4 | 1.10 | ( 0.36, 1.84 ) | 0.667782 |  |
| ABCB1 | 1.04 | ( 0.34, 1.74 ) | 0.696258 |  |
| AQP1 | 1.08 | ( 0.64, 1.52 ) | 0.698867 |  |
| LOX | 1.00 | ( 0.49, 1.50 ) | 0.701271 |  |
| FKBP5 | 1.12 | ( 0.52, 1.73 ) | 0.710897 |  |
| PLEKHF1 | 0.98 | ( 0.66, 1.30 ) | 0.712050 |  |
| GHRHR | 0.97 | ( 0.80, 1.14 ) | 0.721137 |  |
| COMT | 1.03 | ( 0.84, 1.22 ) | 0.728299 |  |
| GSR | 1.08 | ( 0.43, 1.74 ) | 0.740263 |  |
| PDCD7 | 1.01 | ( 0.93, 1.10 ) | 0.740743 |  |
| USP2 | 1.07 | ( 0.51, 1.63 ) | 0.751801 |  |
| STAT5B | 0.97 | ( 0.79, 1.14 ) | 0.778477 |  |
| ZNF281 | 0.96 | ( 0.78, 1.13 ) | 0.787993 |  |
| SESN1 | 0.98 | ( 0.86, 1.11 ) | 0.809213 |  |
| AKR1D1 | 1.01 | ( 0.87, 1.15 ) | 0.829284 |  |
| KLF13 | 1.00 | ( 0.86, 1.15 ) | 0.838131 |  |
| TBL1XR1 | 0.99 | ( 0.88, 1.10 ) | 0.845770 |  |
| ADARB1 | 0.95 | ( 0.68, 1.22 ) | 0.850260 |  |
| ANGPTL4 | 1.01 | ( 0.82, 1.21 ) | 0.855780 |  |
| SGK1 | 0.98 | ( 0.69, 1.27 ) | 0.872199 |  |
| NRG1 | 0.99 | ( 0.03, 1.94 ) | 0.876623 |  |
| RASA3 | 1.01 | ( 0.64, 1.38 ) | 0.888329 |  |
| IL6R | 0.96 | ( 0.61, 1.30 ) | 0.893000 |  |
| SPHK1 | 1.01 | ( 0.66, 1.35 ) | 0.894033 |  |
| POU2F1 | 0.98 | ( 0.83, 1.13 ) | 0.894689 |  |
| CYP11B1 | 1.10 | ( 0.43, 1.78 ) | 0.895853 |  |
| SLC6A2 | 0.98 | ( 0.70, 1.26 ) | 0.935474 |  |
| SLC6A1 | 1.08 | ( 0.19, 1.97 ) | 0.935663 |  |
| DUSP1 | 0.98 | ( 0.73, 1.24 ) | 0.943757 |  |
| PIK3R1 | 0.98 | ( 0.78, 1.19 ) | 0.962793 |  |
| CALCR | 0.94 | ( 0.59, 1.28 ) | 0.979306 |  |
| IL6 | 0.97 | ( 0.60, 1.35 ) | 0.991418 |  |

**Table S4. Fold-changes and p-values for 85 genes between cases and controls in the with labour group**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Gene Symbol** | **Fold Change** | **95% CI** | **praw** | **pcorrected** |
| FKBP5 | 0.31 | ( 0.08, 0.54 ) | 0.003988\* | 0.338980 |
| TSC22D3 | 0.40 | ( 0.12, 0.68 ) | 0.007209\* | 0.306383 |
| GLUL | 0.69 | ( 0.56, 0.83 ) | 0.010012\* | 0.283673 |
| NRG1 | 0.23 | ( 0.03, 0.43 ) | 0.010247\* | 0.217749 |
| CEBPA | 0.60 | ( 0.44, 0.76 ) | 0.011601\* | 0.197217 |
| RHOB | 0.74 | ( 0.58, 0.91 ) | 0.013481\* | 0.190981 |
| KLF9 | 0.52 | ( 0.25, 0.79 ) | 0.015210\* | 0.184693 |
| DDIT4 | 0.60 | ( 0.33, 0.86 ) | 0.022001\* | 0.233761 |
| ZHX3 | 0.64 | ( 0.42, 0.85 ) | 0.030198\* | 0.285203 |
| KLF13 | 0.80 | ( 0.68, 0.92 ) | 0.030963\* | 0.263186 |
| VDR | 0.67 | ( 0.50, 0.84 ) | 0.036292\*\* | 0.280438 |
| PIK3R1 | 0.73 | ( 0.55, 0.90 ) | 0.044555\* | 0.315598 |
| STAT5A | 0.77 | ( 0.60, 0.94 ) | 0.046194\* | 0.302038 |
| FOSL2 | 0.63 | ( 0.42, 0.85 ) | 0.047114\* | 0.286049 |
| SESN1 | 0.75 | ( 0.55, 0.96 ) | 0.047209\* | 0.267518 |
| NFKBIA | 0.84 | ( 0.73, 0.94 ) | 0.047811\* | 0.253996 |
| SLC6A4 | 1.41 | ( 0.88, 1.95 ) | 0.049599\* | 0.247995 |
| PER2 | 0.78 | ( 0.65, 0.92 ) | 0.054239 |  |
| IL10 | 0.49 | ( 0.16, 0.81 ) | 0.054591 |  |
| DUSP1 | 0.65 | ( 0.43, 0.87 ) | 0.060986 |  |
| PER1 | 0.66 | ( 0.33, 0.99 ) | 0.062578 |  |
| SLC10A6 | 0.75 | ( 0.47, 1.03 ) | 0.067904 |  |
| AVPR1B | 0.44 | ( 0.00, 0.87 ) | 0.072694 |  |
| CREB3 | 0.89 | ( 0.80, 0.97 ) | 0.073359 |  |
| GSR | 1.77 | ( 0.64, 2.91 ) | 0.081602 |  |
| ARID5B | 0.85 | ( 0.72, 0.98 ) | 0.084930 |  |
| OXTR | 0.62 | ( 0.24, 1.00 ) | 0.096053 |  |
| CEBPB | 0.80 | ( 0.62, 0.97 ) | 0.101957 |  |
| CALCR | 1.52 | ( 0.69, 2.36 ) | 0.102752 |  |
| SLC19A2 | 1.16 | ( 0.98, 1.33 ) | 0.113419 |  |
| AKR1D1 | 0.69 | ( 0.35, 1.02 ) | 0.118336 |  |
| SPHK1 | 1.35 | ( 0.96, 1.75 ) | 0.134882 |  |
| CYP11A1 | 0.79 | ( 0.54, 1.05 ) | 0.137499 |  |
| ATF4 | 0.88 | ( 0.72, 1.03 ) | 0.137853 |  |
| SLC6A1 | 0.62 | ( 0.18, 1.05 ) | 0.143588 |  |
| AQP1 | 0.56 | ( 0.19, 0.92 ) | 0.147314 |  |
| CREB3L4 | 0.87 | ( 0.72, 1.03 ) | 0.172621 |  |
| PLEKHF1 | 1.30 | ( 0.84, 1.76 ) | 0.185132 |  |
| SPSB1 | 0.79 | ( 0.50, 1.07 ) | 0.201688 |  |
| ZFP36 | 0.72 | ( 0.35, 1.09 ) | 0.205549 |  |
| STAT5B | 0.86 | ( 0.69, 1.02 ) | 0.225117 |  |
| IL6R | 0.70 | ( 0.42, 0.98 ) | 0.225829 |  |
| TBL1XR1 | 1.14 | ( 0.94, 1.33 ) | 0.230286 |  |
| HAS2 | 1.73 | ( 0.39, 3.07 ) | 0.237568 |  |
| LNPEP | 0.87 | ( 0.71, 1.03 ) | 0.247082 |  |
| BMPER | 0.77 | ( 0.40, 1.13 ) | 0.248136 |  |
| PDCD7 | 0.95 | ( 0.87, 1.03 ) | 0.276414 |  |
| PLD1 | 0.80 | ( 0.49, 1.10 ) | 0.291557 |  |
| IL1RN | 0.83 | ( 0.30, 1.35 ) | 0.346464 |  |
| CREB1 | 0.91 | ( 0.76, 1.05 ) | 0.369126 |  |
| USP54 | 1.08 | ( 0.88, 1.28 ) | 0.388843 |  |
| USP2 | 0.77 | ( 0.25, 1.29 ) | 0.397353 |  |
| CYB561 | 0.89 | ( 0.71, 1.08 ) | 0.403902 |  |
| IL2 | 0.83 | ( 0.49, 1.17 ) | 0.424695 |  |
| EDN1 | 0.91 | ( 0.20, 1.63 ) | 0.449624 |  |
| NR3C1 | 0.89 | ( 0.67, 1.10 ) | 0.458645 |  |
| CACNA1C | 1.15 | ( 0.72, 1.59 ) | 0.498551 |  |
| GHRHR | 0.80 | ( 0.23, 1.36 ) | 0.502660 |  |
| TNFAIP3 | 0.93 | ( 0.57, 1.29 ) | 0.582999 |  |
| DIRAS2 | 0.32 | ( 0.00001, 0.91 ) | 0.584950 |  |
| ANGPTL4 | 1.06 | ( 0.81, 1.31 ) | 0.588051 |  |
| ABCB1 | 0.93 | ( 0.21, 1.64 ) | 0.591623 |  |
| POU2F2 | 1.05 | ( 0.76, 1.34 ) | 0.595620 |  |
| NPY | 0.77 | ( 0.00001, 2.08 ) | 0.598721 |  |
| LOX | 1.06 | ( 0.62, 1.50 ) | 0.600932 |  |
| HSD3B1 | 0.96 | ( 0.87, 1.06 ) | 0.603227 |  |
| HSD11B1 | 0.91 | ( 0.47, 1.35 ) | 0.605177 |  |
| ZNF281 | 1.03 | ( 0.90, 1.17 ) | 0.646603 |  |
| SLC6A2 | 1.06 | ( 0.58, 1.54 ) | 0.679905 |  |
| IL1B | 0.96 | ( 0.42, 1.51 ) | 0.682728 |  |
| SLC22A5 | 1.08 | ( 0.69, 1.47 ) | 0.701023 |  |
| PDGFRB | 0.90 | ( 0.61, 1.19 ) | 0.711329 |  |
| POU2F1 | 0.95 | ( 0.65, 1.25 ) | 0.747684 |  |
| CYP17A1 | 0.97 | ( 0.13, 1.81 ) | 0.756321 |  |
| ADARB1 | 0.95 | ( 0.62, 1.28 ) | 0.763762 |  |
| IL6 | 0.93 | ( 0.45, 1.41 ) | 0.768022 |  |
| ERRFI1 | 0.90 | ( 0.56, 1.24 ) | 0.783211 |  |
| CTGF | 0.75 | ( 0.20, 1.31 ) | 0.833718 |  |
| CYP11B1 | 0.95 | ( 0.59, 1.31 ) | 0.899570 |  |
| MT2A | 2.20 | ( 0.00001, 6.19 ) | 0.908540 |  |
| COMT | 1.01 | ( 0.83, 1.20 ) | 0.918052 |  |
| RASA3 | 0.93 | ( 0.68, 1.19 ) | 0.930959 |  |
| SGK1 | 1.01 | ( 0.73, 1.28 ) | 0.934022 |  |
| TNF | 0.69 | ( 0.22, 1.17 ) | 0.990705 |  |
| HSD11B2 | 0.94 | ( 0.55, 1.32 ) | 0.993989 |  |

**Table S5. Spearman’s rho and p-values for correlations between the candidate genes expression and PRAQ-R, STAI-S, and CESD scores, adjusting for labour status, and smoking status.**

*(Benjamini-Hochberg corrected p-values are shown in parenthesis when applicable).*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Gene |   | PRAQ | STAI | CESD |
| ATF4 | Rho | -0.087 | -0.235 | -0.108 |
|  | p | 0.685 | 0.268 | 0.616 |
| CEBPA | Rho | -0.281 | -0.273 | -0.308 |
|   | p | 0.183 | 0.197 | 0.143 |
| CEBPB | Rho | -0.114 | -0.218 | -0.14 |
|  | p | 0.596 | 0.306 | 0.514 |
| CREB1 | Rho | -0.149 | -0.1 | -0.015 |
|   | p | 0.487 | 0.643 | 0.944 |
| CREB3 | Rho | -.430\* | -0.366 | -0.351 |
|  | p | 0.036 (0.673) | 0.078 | 0.093 |
| CREB3L4 | Rho | 0.017 | -0.192 | -0.214 |
|   | p | 0.936 | 0.369 | 0.315 |
| NR3C1 | Rho | -0.103 | -0.214 | -0.104 |
|  | p | 0.632 | 0.314 | 0.63 |
| POU2F1 | Rho | -0.132 | 0.022 | 0.024 |
|   | p | 0.538 | 0.918 | 0.912 |
| POU2F2 | Rho | 0.165 | 0.14 | 0.274 |
|  | p | 0.44 | 0.514 | 0.196 |
| STAT5A | Rho | 0.05 | -0.069 | -0.2 |
|   | p | 0.818 | 0.748 | 0.349 |
| STAT5B | Rho | -0.221 | -0.259 | -0.367 |
|  | p | 0.298 | 0.221 | 0.078 |
| EDN1 | Rho | -0.382 | -0.283 | -0.197 |
|   | p | 0.066 | 0.18 | 0.356 |
| IL10 | Rho | -0.189 | -0.117 | -0.075 |
|  | p | 0.376 | 0.586 | 0.728 |
| IL1RN | Rho | 0.207 | 0.098 | 0.181 |
|   | p | 0.332 | 0.649 | 0.397 |
| IL6 | Rho | 0.07 | 0.073 | 0.094 |
|  | p | 0.744 | 0.736 | 0.662 |
| IL6R | Rho | -0.084 | -0.185 | -0.09 |
|   | p | 0.695 | 0.387 | 0.677 |
| TNF | Rho | 0.194 | 0.122 | 0.194 |
|  | p | 0.365 | 0.569 | 0.365 |
| ANGPTL4 | Rho | 0.04 | -0.015 | -0.054 |
|   | p | 0.854 | 0.944 | 0.801 |
| CTGF | Rho | -0.304 | -0.382 | -0.294 |
|  | p | 0.149 | 0.066 | 0.164 |
| OXTR | Rho | -0.381 | -0.17 | -0.164 |
|   | p | 0.066 | 0.426 | 0.445 |
| HAS2 | Rho | -0.017 | 0.125 | 0.173 |
|  | p | 0.937 | 0.561 | 0.419 |
| LOX | Rho | 0.188 | 0.165 | 0.25 |
|   | p | 0.379 | 0.44 | 0.239 |
| CALCR | Rho | -0.077 | 0.149 | 0.19 |
|  | p | 0.721 | 0.487 | 0.375 |
| PDGFRB | Rho | -0.158 | -0.219 | -0.157 |
|   | p | 0.46 | 0.303 | 0.464 |
| AVPR1B | Rho | -0.321 | -0.243 | -0.102 |
|  | p | 0.126 | 0.253 | 0.636 |
| AQP1 | Rho | -0.07 | -0.341 | -0.333 |
|   | p | 0.745 | 0.103 | 0.112 |
| SLC10A6 | Rho | 0.107 | 0.134 | 0.094 |
|  | p | 0.62 | 0.531 | 0.662 |
| SLC19A2 | Rho | .438\* | 0.259 | 0.207 |
|   | p | 0.032 (0.673) | 0.221 | 0.331 |
| SLC22A5 | Rho | 0.063 | -0.009 | -0.095 |
|  | p | 0.77 | 0.966 | 0.658 |
| BMPER | Rho | -0.091 | -0.29 | -0.261 |
|   | p | 0.673 | 0.169 | 0.218 |
| DUSP1 | Rho | -0.268 | -0.258 | -0.239 |
|  | p | 0.206 | 0.224 | 0.26 |
| PIK3R1 | Rho | -0.155 | -0.222 | -0.109 |
|   | p | 0.47 | 0.297 | 0.613 |
| PLD1 | Rho | 0.094 | 0.043 | 0.105 |
|  | p | 0.662 | 0.84 | 0.624 |
| RASA3 | Rho | 0.007 | 0.034 | 0.189 |
|   | p | 0.976 | 0.875 | 0.377 |
| SPHK1 | Rho | 0.139 | 0.325 | 0.395 |
|  | p | 0.517 | 0.121 | 0.056 |
| USP2 | Rho | 0.163 | 0.083 | 0.103 |
|   | p | 0.448 | 0.7 | 0.632 |
| LNPEP | Rho | -0.089 | -0.15 | -0.263 |
|  | p | 0.68 | 0.483 | 0.214 |
| DDIT4 | Rho | -.425\* | -0.346 | -0.287 |
|   | p | 0.038 (0.673) | 0.098 | 0.174 |
| PDCD7 | Rho | 0.062 | -0.028 | 0.027 |
|  | p | 0.774 | 0.896 | 0.899 |
| SESN1 | Rho | -0.206 | -0.189 | -0.121 |
|   | p | 0.335 | 0.376 | 0.572 |
| SGK1 | Rho | -0.21 | -0.087 | -0.073 |
|  | p | 0.324 | 0.688 | 0.736 |
| ARID5B | Rho | -0.231 | -.417\* | -.420\* |
|   | p | 0.278 | 0.043 (0.518) | 0.041 (0.518) |
| FOSL2 | Rho | -0.312 | -.481\* | -.431\* |
|  | p | 0.137 | 0.017 (0.518) | 0.035 (0.518) |
| KLF13 | Rho | -0.248 | -0.338 | -0.254 |
|   | p | 0.243 | 0.106 | 0.23 |
| KLF9 | Rho | -0.255 | -0.372 | -0.309 |
|  | p | 0.229 | 0.073 | 0.142 |
| NFKBIA | Rho | -0.385 | -.428\* | -0.382 |
|   | p | 0.063 | 0.037 (0.518) | 0.065 |
| TBL1XR1 | Rho | 0.31 | 0.135 | 0.257 |
|  | p | 0.141 | 0.529 | 0.225 |
| TNFAIP3 | Rho | 0.02 | 0.122 | 0.046 |
|   | p | 0.926 | 0.569 | 0.832 |
| TSC22D3 | Rho | -0.295 | -.440\* | -0.382 |
|  | p | 0.161 | 0.032 (0.518) | 0.066 |
| VDR | Rho | 0.021 | -0.117 | -0.087 |
|   | p | 0.921 | 0.586 | 0.688 |
| ZFP36 | Rho | -0.066 | -0.143 | -0.079 |
|  | p | 0.76 | 0.505 | 0.713 |
| ZHX3 | Rho | -0.213 | -0.326 | -0.277 |
|   | p | 0.317 | 0.12 | 0.19 |
| PER1 | Rho | -.475\* | -.419\* | -0.348 |
|  | p | 0.019 (0.673) | 0.041 (0.518) | 0.096 |
| PER2 | Rho | -0.223 | -0.358 | -0.368 |
|   | p | 0.295 | 0.086 | 0.076 |
| FKBP5 | Rho | -0.237 | -0.361 | -0.317 |
|  | p | 0.264 | 0.083 | 0.131 |
| CYB561 | Rho | -0.359 | -0.396 | -0.346 |
|   | p | 0.085 | 0.055 | 0.098 |
| ERRFI1 | Rho | -0.098 | 0.017 | -0.07 |
|  | p | 0.648 | 0.939 | 0.747 |
| SPSB1 | Rho | -0.21 | -0.292 | -0.161 |
|   | p | 0.324 | 0.166 | 0.451 |
| USP54 | Rho | -0.059 | 0.155 | 0.188 |
|  | p | 0.784 | 0.47 | 0.378 |
| ZNF281 | Rho | 0.3 | 0.022 | -0.004 |
|   | p | 0.155 | 0.918 | 0.984 |
| CYP11A1 | Rho | 0.061 | -0.099 | -0.187 |
|  | p | 0.777 | 0.645 | 0.383 |
| HSD3B1 | Rho | 0.171 | 0.182 | 0.09 |
|   | p | 0.426 | 0.394 | 0.676 |
| HSD11B1 | Rho | -0.122 | -0.217 | -0.152 |
|  | p | 0.571 | 0.308 | 0.479 |
| HSD11B2 | Rho | 0.104 | 0.177 | 0.133 |
|   | p | 0.63 | 0.407 | 0.537 |
| SLC6A4 | Rho | 0.265 | 0.251 | 0.248 |
|  | p | 0.21 | 0.237 | 0.242 |
| SLC6A2 | Rho | 0.116 | 0.159 | 0.065 |
|   | p | 0.589 | 0.459 | 0.762 |
| SLC6A1 | Rho | -0.157 | -0.362 | -0.253 |
|  | p | 0.464 | 0.082 | 0.233 |
| IL1B | Rho | 0.127 | 0.245 | 0.253 |
|   | p | 0.554 | 0.249 | 0.233 |
| GSR | Rho | 0.151 | 0.312 | 0.192 |
|  | p | 0.48 | 0.137 | 0.369 |
| COMT | Rho | 0.068 | 0.099 | 0.152 |
|   | p | 0.753 | 0.646 | 0.478 |
| CACNA1C | Rho | -0.164 | -0.14 | -0.112 |
|  | p | 0.444 | 0.515 | 0.602 |
| ABCB1 | Rho | -0.184 | 0.039 | -0.011 |
|   | p | 0.388 | 0.856 | 0.96 |
| PLEKHF1 | Rho | 0.215 | 0.218 | 0.297 |
|  | p | 0.312 | 0.305 | 0.159 |
| ADARB1 | Rho | -0.168 | -0.148 | -0.013 |
|   | p | 0.433 | 0.489 | 0.95 |
| MT2A | Rho | 0.111 | -0.072 | 0 |
|  | p | 0.604 | 0.737 | 0.998 |
| GLUL | Rho | -0.377 | -0.291 | -0.241 |
|   | p | 0.07 | 0.167 | 0.258 |
| RHOB | Rho | -0.223 | -0.329 | -0.288 |
|   | p | 0.296 | 0.117 | 0.173 |