**Supplementary Table S1. Gene names and the generic functions of 75 genes exclusively altered in frontal cortex white matter of HDLS**

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| --- | --- | --- | --- | --- | --- |
| **Gene name** | **Accession number** | **Fold Change** | **P-value** | **Functional class** | **MGnD** |
| *GPNMB* | NM\_001005340.1 | 28.28 | 0.035 | Cell membrane glycoprotein | + |
| *LGALS3* | NM\_001177388.1 | 6.98 | 0.010 | Binding protein | + |
| *CXCR4* | NM\_003467.2 | 5.68 | 0.013 | Chemokine receptor |  |
| *SYTL1* | NM\_032872.1 | 5.23 | 0.043 | Cholesterol transporter |  |
| *ABCA1* | NM\_005502.2 | 5.20 | 0.003 | Ligand gated ion channel |  |
| *SPINT1* | NM\_001032367.1 | 4.53 | 0.018 | Protease inhibitor |  |
| *EGR2* | NM\_000399.3 | 4.23 | 0.049 | Transcription factor |  |
| *ABCC3* | NM\_001144070.1 | 3.96 | 0.007 | Transporter |  |
| *APOE* | NM\_000041.2 | 3.93 | 0.042 | Lipoprotein receptor | + |
| *MLPH* | NM\_024101.4 | 3.73 | 0.028 | Binding protein |  |
| *SLC7A8* | NM\_001267036.1 | 3.64 | 0.036 | Transporter |  |
| *HIST1H2AB* | NM\_003513.2 | 3.59 | 0.027 | Histone |  |
| *CCL4* | NM\_002984.2 | 3.38 | 0.042 | Chemokine ligand |  |
| *FAM46C* | NM\_017709.3 | 3.24 | 0.032 | Generic protein |  |
| *C4A* | NM\_007293.2 | 3.23 | 0.006 | Complement receptor |  |
| *TMEM100* | NM\_018286.2 | 3.10 | 0.010 | Generic protein |  |
| *CST7* | NM\_003650.3 | 3.07 | 0.039 | Binding protein |  |
| *DAB2* | NM\_001343.2 | 3.07 | 0.001 | Binding protein |  |
| *PROS1* | NM\_000313.1 | 2.98 | 0.005 | Receptor ligand |  |
| *CTSD* | NM\_001909.3 | 2.88 | 0.024 | Cystatin F | + |
| *TMEM86A* | NM\_153347.1 | 2.85 | 0.009 | Generic protein |  |
| *TRIM47* | NM\_033452.2 | 2.83 | 0.006 | E3 ubiquitin ligase |  |
| *MAFB* | NM\_005461.3 | 2.82 | 0.022 | Myeloid cell transcription factor | - |
| *PTMS* | NM\_002824.4 | 2.80 | 0.008 | Binding protein |  |
| *SALL3* | NM\_171999.2 | 2.71 | 0.002 | Transcription factor |  |
| *PTGFRN* | NM\_020440.2 | 2.67 | 0.006 | Binding protein |  |
| *NAV2* | NM\_001111018.1 | 2.60 | 0.001 | Binding protein |  |
| *JUN* | NM\_002228.3 | 2.58 | 0.047 | Transcription factor |  |
| *HEXB* | NM\_000521.3 | 2.55 | 0.004 | Generic enzyme | - |
| *SESN1* | NM\_014454.2 | 2.42 | 0.028 | Generic protein |  |
| *LEPREL1* | NM\_018192.2 | 2.29 | 0.007 | Generic enzyme |  |
| *GRAP* | NM\_006613.3 | 2.28 | 0.032 | Binding protein |  |
| *TMEM204* | NM\_024600.4 | 2.21 | 0.028 | Generic protein |  |
| *GMFB* | NM\_004124.2 | 2.21 | 0.044 | Binding protein |  |
| *RNF180* | NM\_001113561.1 | 2.20 | 0.033 | Binding protein |  |
| *CHST7* | NM\_019886.2 | 2.11 | 0.018 | Generic enzyme |  |
| *CTNNA2* | NM\_004389.2 | 2.10 | 0.046 | Binding protein |  |
| *SBF2* | NM\_030962.3 | 2.08 | 0.004 | Phosphatase |  |
| *GAL3ST4* | NM\_024637.4 | 2.06 | 0.027 | Generic enzyme |  |
| *LARGE* | NM\_004737.4 | 2.05 | 0.007 | Generic enzyme |  |
| *USP2* | NM\_171997.2 | 2.04 | 0.026 | Protease |  |
| *MAGI3* | NM\_152900.2 | 1.97 | 0.035 | Kinase |  |
| *LMO2* | NM\_005574.3 | 1.92 | 0.033 | Transcription factor |  |
| *ZFPM1* | NM\_153813.2 | 1.89 | 0.027 | Transcription factor |  |
| *SPIRE1* | NM\_001128626.1 | 1.82 | 0.002 | Binding protein |  |

**Supplementary Table S1 (continued)**

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| --- | --- | --- | --- | --- | --- |
| **Gene name** | **Accession number** | **Fold Change** | **P-value** | **Functional class** | **MGnD** |
| *GBGT1* | NM\_021996.4 | 1.81 | 0.032 | Generic enzyme |  |
| *FER1L3* | NM\_013451.3 | 1.75 | 0.022 | Binding protein |  |
| *SEC22B* | NM\_004892.5 | 1.72 | 0.042 | Binding protein |  |
| *RAB3IL1* | NM\_013401.2 | 1.70 | 0.045 | Regulators |  |
| *EXTL3* | NM\_001440.3 | 1.70 | 0.046 | Generic enzyme |  |
| *CMKLR1* | NM\_004072.1 | 1.67 | 0.020 | GPCR |  |
| *KCNMA1* | NM\_001014797.2 | 1.65 | 0.031 | Voltage gated ion channel |  |
| *ST3GAL6* | NM\_006100.2 | 1.65 | 0.010 | Generic enzyme |  |
| *NEDD1* | NM\_001135175.1 | 1.60 | 0.022 | Generic protein |  |
| *ABI1* | NM\_001012750.1 | 1.53 | 0.022 | Binding protein |  |
| *SLC6A1* | NM\_003042.3 | -1.55 | 0.047 | Transporter |  |
| *TMEM144* | NM\_018342.4 | -1.75 | 0.004 | Generic protein |  |
| *APBB2* | NM\_173075.4 | -1.79 | 0.037 | Binding protein |  |
| *PALD1* | NM\_014431.2 | -1.87 | 0.015 | Phosphatase |  |
| *TGFA* | NM\_003236.2 | -1.92 | 0.009 | Receptor ligand | - |
| *GPR34* | NM\_005300.2 | -1.95 | 0.029 | GPCR | - |
| *TMEM119* | NM\_181724.2 | -2.05 | 0.024 | Generic protein |  |
| *ENPP2* | NM\_001040092.2 | -2.23 | 0.022 | Generic enzyme |  |
| *TMEM206* | NM\_018252.2 | -2.34 | 0.019 | Generic protein |  |
| *OMG* | NM\_002544.3 | -2.60 | 0.007 | Binding protein |  |
| *SLC2A5* | NM\_003039.2 | -2.98 | 0.018 | Transporter |  |