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| **Gene** | **Description** | **P-Value** | **Neurological Disease Phenotypes** | **Clinical Variations** |
| AHI1 | Abelson helper integration site 1 | 7.26E-10 | Joubert syndrome and related disorder| polymicrogyria | cerebellar ataxia | intellectual disability | mental retardation | bipolar disorder | schizophrenia | neuronitis | Joubert syndrome 3 (Pathogenic likely) |
| BARD1 | BRCA1 associated RING domain 1 | 1.18E-07 | Neuroblastoma susceptibility | Neoplastic Syndromes| Hereditary (Pathogenic likely) |
| CLECL1 | C-type lectin-like 1 | 9.95E-19 | Multiple sclerosis |  |
| DISC1 | disrupted in schizophrenia 1 | 2.56E-11 |  | Schizophrenia 9 (Pathogenic likely) |
| FAM119B | family with sequence similarity 119, member B | 1.00E-24 | Multiple scelerosis |  |
| HLA-C | major histocompatibility complex, class I, C | 1.62E-10 | Multiple Sclerosis | Psoriasis susceptibility 1 (Risk factor); Hiv-1 viremia| susceptibility to (Risk factor) |
| HLA-DQA1 | major histocompatibility complex, class II, DQ alpha 1 | 0 | Stroke| lacunar| brain infarction| multiple sclerosis| schizophrenia | Celiac disease 3| Systemic lupus erythematosus| susceptibility to| Diabetes mellitus| insulin-dependent| susceptibility to|Hashimoto thyroiditis| susceptibility to| Thyroid-associated orbitopathy| susceptibility to| Graves disease 4 |
| HLA-DQB1 | major histocompatibility complex, class II, DQ beta 1 | 0 | Variant creutzfeldt-jakob disease| multiple sclerosis|  small fiber neuropathy|  genetic prion diseases| narcolepsy| kleine-levin syndrome | Celiac disease 3| Systemic lupus erythematosus| susceptibility to| Diabetes mellitus| insulin-dependent| susceptibility to|Hashimoto thyroiditis| susceptibility to| Thyroid-associated orbitopathy| susceptibility to| Graves disease 4 |
| HLA-DRA | major histocompatibility complex, class II, DR alpha | 8.28E-08 | retinoblastoma |  |
| HLA-DRB5 | major histocompatibility complex, class II, DR beta 5 | 4.60E-14 | Multiple sclerosis |  |
| HLA-G | major histocompatibility complex, class I, G | 9.97E-11 | Multiple sclerosis | Developmental delay AND/OR other significant developmental or morphological phenotypes (pathogenic likely) |
| ITIH4 | inter-alpha (globulin) inhibitor H4 (plasma Kallikrein-sensitive glycoprotein) | 2.75E-08 | dementia| aids dementia complex | Hypercholesterolemia| susceptibility to (Risk factor) |
| LRRC37A | leucine rich repeat containing 37A | 1.01E-16 | Parkinson's disease | Developmental delay AND/OR other significant developmental or morphological phenotypes (pathogenic likely) |
| MAPK8IP1 | mitogen-activated protein kinase 8 interacting protein 1 | 2.99E-12 | Alzheimer's Disease| Parkinson's disease | Diabetes Type 2 (pathogenic)| Developmental delay AND/OR other significant developmental or morphological phenotypes (pathogenic likely) |
| MAPT | microtubule-associated protein tau | 4.77E-10 | Parkinson's disease | progressive supranuclear palsy atypical |corticobasal degeneration | alzheimer disease type 3| prion disease | motor neuron disease |tremor | neuritis |  |
| MTHFR | 5,10-methylenetetrahydrofolate reductase (NADPH) | 3.30E-08 | Neural tube defects | Homocystinuria due to MTHFR deficiency Risk facotor (pathogenic likely) |
| NFIA | nuclear factor I/A | 5.11E-10 | Natriuretic Peptide| Brain |  |
| RPS6KB2 | ribosomal protein S6 kinase, 70kDa, polypeptide 2 | 3.87E-13 | Malignant peripheral nerve sheath tumor | neuroendocrine tumor| glioblastoma multiforme| malignant glioma | alzheimer's disease | astrocytoma| multiple sclerosis | neuroblastoma| neuronitis | Frontotemporal dementia (pathogeni likely) |

Table 1: The Expression Quantitative Analysis of the NeuroGenes. The NCBI PhenGenI tool was batch analyzed to identify expression Quantitative Trait Loci (eQTL)-associated neurological traits. p-values <10-5, R-Squared 0.3. The clinical variations inferred from the National Center for Biotechnology Information Clinical Variations with pathogenic or risk factor associated single nucleotide polymorphisms (ClinVar) are shown.

Abbreviations: FAM: Family; MAPK: Mitogen Activated Protein Kinase; NF: Nuclear Factor.