|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Supplemental Table 4b**: H3K4me3 peaks showing >2-fold decrease in subsets of autism cases (A1-A16) | | | | | | | | | |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **PEAK INFORMATION** |  |  |  |  | **Decipher database** |  | **Sfari database** |  |  | **HuGE database** |  |  | **Other information** |  |  |  |  |
| **Order on Author Supplemental Figure S5B heatmap** | **Peak** | **corrected for multiple testing p-value for the lowest Autism sample** | **Overlap gene/Intergenic** | **Nearest TSS** | **Distance to nearest TSS (bp)** | **Syndrome** | **Autism/Mental retardation** | **Support for Autism** | **Primay Reference** | **Most cited** | **Reference** | **Autism samples affected** | **Refseq Description** | **Neuronal Function** | **Autism/MR/Schizophrenia/Neurodegenerative Disease/Neurodevelopment** | **PMID** | **Association** | **CNV data** |
| **147** | **chr1:1284938-1285465** | **7.3E-35** | **intergenic** | **DVL1** | **446** | **1p36 microdeletion syndrome** | **Y** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **dishevelled 1** | **Y** |  | **9298901** | **essential for social interaction** |  |
| **130** | **chr1:1406772-1407039** | **9.1E-07** | **intergenic** | **ATAD3B** | **124** | **1p36 microdeletion syndrome** | **Y** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A16** | **AAA-ATPase TOB3** |  |  |  |  | **A16 has microdeletion** |
| **18** | **chr1:14075528-14075745** | **9.7E-07** | **PRDM2** | **PRDM2** | **130** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **retinoblastoma protein-binding zinc finger** |  |  |  |  |  |
| **126** | **chr1:147071564-147071852** | **1.1E-09** | **BCL9** | **BCL9** | **58383** | **1q21.1 recurrent microduplication (possible susceptiblity locus for neurodevelopmental disorders)** | **Y** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **B-cell CLL/lymphoma 9** |  |  |  |  |  |
| **191** | **chr1:152161144-152162106** | **2.9E-38** | **intergenic** | **RPTN** | **29440** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A3,A12** | **repetin** |  |  |  |  |  |
| **121** | **chr1:154989736-154990129** | **1.8E-06** | **ZBTB7B** | **ZBTB7B** | **14625** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **zinc finger and BTB domain containing 7B** |  |  |  |  |  |
| **181** | **chr1:165567175-165567662** | **2.1E-17** | **intergenic** | **LOC400794** | **15834** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **Homo sapiens cDNA FLJ35813 fis, clone TESTI2006067.** |  |  |  |  |  |
| **89** | **chr1:1709340-1709886** | **2.8E-39** | **NADK** | **NADK** | **23** | **1p36 microdeletion syndrome** | **Y** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A14** | **SubName: Full=NAD kinase; Flags: Fragment;** |  |  |  |  | **A14 has microdeletion** |
| **220** | **chr1:208132642-208133130** | **1.5E-05** | **intergenic** | **CD34** | **47959** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A7** | **CD34 antigen isoform a** |  |  |  |  |  |
| **59** | **chr1:223316381-223316597** | **2.8E-04** | **TLR5** | **TLR5** | **27** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A2,A5** | **toll-like receptor 5 precursor** |  |  |  |  |  |
| **42** | **chr1:226250018-226250216** | **1.4E-04** | **intergenic** | **H3F3A** | **191** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** |  |  |  |  |  |  |
| **40** | **chr1:244998323-244998566** | **1.1E-06** | **intergenic** | **FAM36A** | **72** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **Homo sapiens full length insert cDNA clone ZB97G06.** | **Y** |  | **20382278** | **1q44 deletions and seizures** |  |
| **142** | **chr1:2461564-2462119** | **3.7E-05** | **HES5** | **HES5** | **0** | **1p36 microdeletion syndrome** | **Y** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A10** | **hairy and enhancer of split 5** | **Y** |  | **21172336** | **neurogenesis** |  |
| **207** | **chr1:27717671-27720442** | **1.9E-188** | **GPR3** | **GPR3** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A1,A4,A14,A16** | **G protein-coupled receptor 3** | **Y** |  | **19259266** | **regulation of emotional and affective behavior** |  |
| **195** | **chr1:3341462-3341661** | **4.8E-06** | **PRDM16** | **ARHGEF16** | **29485** | **1p36 microdeletion syndrome** | **Y** | **N/A** | **N/A** | **N/A** | **N/A** | **A2,A5** | **SubName: Full=Rho guanine exchange factor (GEF) 16; Flags: Fragment;** |  |  |  |  |  |
| **86** | **chr1:3447663-3448351** | **1.4E-12** | **MEGF6** | **MIR551A** | **29003** | **1p36 microdeletion syndrome** | **Y** | **N/A** | **N/A** | **N/A** | **N/A** | **A2,A5,A13** |  |  |  |  |  |  |
| **99** | **chr1:41130833-41131350** | **8.1E-26** | **RIMS3** | **RIMS3** | **0** | **N/A** | **N/A** | **Mutation screening identified five inherited coding variants from ASD probands (n=512) that were absent in controls (n=1,161)** | **19546099** | **10748113** | **19546099** | **A5,A13** | **regulating synaptic membrane exocytosis 3** | **Y** | **Y** | **19546099** | **1p34.2 microdeletion and autism.** |  |
| **106** | **chr1:41826704-41827050** | **5.2E-10** | **intergenic** | **SCMH1** | **118889** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **sex comb on midleg 1 isoform 2** |  |  |  |  |  |
| **218** | **chr1:43996615-43997211** | **1.1E-22** | **PTPRF** | **PTPRF** | **69** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **SubName: Full=Protein tyrosine phosphatase, receptor type, F;** | **Y** |  | **19816407** | **synapse formation** |  |
| **198** | **chr1:44401669-44402513** | **2.0E-10** | **ARTN** | **ARTN** | **2678** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A2,A5** | **neurotrophic factor artemin isoform 2** |  |  |  |  |  |
| **185** | **chr1:45266026-45266878** | **3.1E-26** | **PLK3** | **PLK3** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A4,A5** | **polo-like kinase 3** | **Y** |  | **10523297** | **long-term synaptic plasticity.** |  |
| **215** | **chr1:65612891-65614136** | **6.2E-30** | **AK4** | **AK4** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** |  |  |  |  |  |  |
| **52** | **chr1:85155513-85156219** | **5.8E-42** | **SSX2IP** | **SSX2IP** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **synovial sarcoma, X breakpoint 2 interacting** |  |  |  |  |  |
| **62** | **chr1:94375243-94375502** | **2.0E-08** | **intergenic** | **GCLM** | **231** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **glutamate-cysteine ligase regulatory protein** | **Y** | **Y** | **21277635** | **polymorphisms linked to various psychiatric disorders** |  |
| **102** | **chr10:116852556-116853120** | **1.0E-18** | **intergenic** | **ATRNL1** | **3** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **RecName: Full=Attractin-like protein 1; Flags: Precursor;** | **Y** | **Y** | **20670697** | **mutations linked to autistic features and ataxia** |  |
| **19** | **chr10:126605025-126605314** | **6.1E-18** | **intergenic** | **ZRANB1** | **25377** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **zinc finger, RAN-binding domain containing 1** |  |  |  |  |  |
| **150** | **chr10:134210717-134210994** | **7.7E-08** | **PWWP2B** | **PWWP2B** | **16** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **PWWP domain containing 2 isoform 2** |  |  |  |  |  |
| **213** | **chr10:134973485-134973842** | **1.1E-13** | **intergenic** | **KNDC1** | **128** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **kinase non-catalytic C-lobe domain (KIND)** |  |  |  |  |  |
| **204** | **chr10:15412753-15413236** | **4.3E-12** | **FAM171A1** | **FAM171A1** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **hypothetical protein LOC221061 precursor** |  |  |  |  |  |
| **60** | **chr10:22517812-22518577** | **5.0E-16** | **intergenic** | **EBLN1** | **18900** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** |  |  |  |  |  |  |
| **127** | **chr10:43572516-43572808** | **8.3E-06** | **RET** | **RET** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A3,A5,A6,A13** | **ret proto-oncogene isoform c** |  |  |  |  |  |
| **192** | **chr10:6244769-6245123** | **8.8E-05** | **PFKFB3** | **PFKFB3** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A4,A5** | **6-phosphofructo-2-kinase/fructose-2,** |  |  |  |  |  |
| **154** | **chr10:72238312-72238739** | **7.3E-07** | **KIAA1274** | **KIAA1274** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **Homo sapiens mRNA for KIAA1274 protein, partial cds.** |  |  |  |  |  |
| **114** | **chr10:72575673-72576378** | **1.1E-27** | **SGPL1** | **SGPL1** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **sphingosine-1-phosphate lyase 1** |  |  |  |  |  |
| **2** | **chr10:830523-830907** | **4.0E-12** | **intergenic** | **DIP2C** | **94915** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **DIP2 disco-interacting protein 2 homolog C** |  |  |  |  |  |
| **144** | **chr11:129149223-129149495** | **1.7E-17** | **intergenic** | **ARHGAP32** | **87130** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** |  |  |  |  |  |  |
| **219** | **chr11:129620636-129620822** | **1.2E-04** | **intergenic** | **TMEM45B** | **64918** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **transmembrane protein 45B** |  |  |  |  |  |
| **174** | **chr11:1327962-1328958** | **4.5E-44** | **TOLLIP** | **TOLLIP** | **1934** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A1,A4,A7** | **toll interacting protein** | **Y** | **Y** | **19716405** | **Down syndrome gene** |  |
| **158** | **chr11:17407673-17408289** | **7.6E-12** | **KCNJ11** | **KCNJ11** | **1917** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A2,A11,A16** | **potassium inwardly-rectifying channel J11** | **Y** |  | **20595581** | **linked to locomotor hyperactivity** |  |
| **10** | **chr11:45921329-45921708** | **6.0E-10** | **MAPK8IP1** | **C11orf94** | **7125** | **Potocki-Shaffer syndrome** | **Y** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **hypothetical protein LOC143678** |  |  |  |  |  |
| **11** | **chr11:6426177-6426739** | **1.9E-10** | **APBB1** | **APBB1** | **13561** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A11** | **SubName: Full=cDNA FLJ57329, moderately similar to Amyloid beta A4 protein-binding family B member 1;** |  |  |  |  |  |
| **14** | **chr11:65222166-65222867** | **1.6E-12** | **intergenic** | **MIR612** | **10238** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A11,A16** |  |  |  |  |  |  |
| **112** | **chr11:65340016-65340708** | **5.1E-37** | **FAM89B** | **FAM89B** | **197** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **family with sequence similarity 89, member B** |  |  |  |  |  |
| **133** | **chr11:65585231-65585779** | **1.3E-11** | **intergenic** | **SNX32** | **15630** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **Homo sapiens cDNA FLJ30934 fis, clone FEBRA2007017, moderately similar to Homo sapiens TRAF4-associated factor 2 mRNA.** |  |  |  |  |  |
| **77** | **chr11:66187262-66190893** | **5.7E-120** | **NPAS4** | **NPAS4** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A1,A4,A11,A14** | **RecName: Full=Neuronal PAS domain-containing protein 4; Short=Neuronal PAS4; AltName: Full=HLH-PAS transcription factor NXF;** | **Y** |  | **20626564** | **stress-regulated expression in hippocampus** |  |
| **32** | **chr12:133263444-133263949** | **6.6E-10** | **POLE** | **POLE** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **DNA-directed DNA polymerase epsilon** |  |  |  |  |  |
| **128** | **chr12:42326350-42326833** | **5.4E-04** | **intergenic** | **GXYLT1** | **211840** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A7** |  |  |  |  |  |  |
| **187** | **chr12:52430939-52434189** | **3.1E-62** | **intergenic** | **NR4A1** | **11001** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A14,A16** | **nuclear receptor subfamily 4, group A, member 1** | **Y** | **Y** | **21305052** | **highly expressed in selected neuronal populations** |  |
| **80** | **chr12:52445087-52448212** | **3.6E-137** | **NR4A1** | **NR4A1** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A1,A4,A11,A14,A16** | **nuclear receptor subfamily 4, group A, member 1** | **Y** | **Y** | **21305052** | **highly expressed in selected neuronal populations** |  |
| **61** | **chr12:58130107-58130361** | **2.0E-06** | **AGAP2** | **AGAP2** | **1668** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **centaurin, gamma 1 isoform PIKE-L** |  |  |  |  |  |
| **140** | **chr12:58132284-58132796** | **5.9E-36** | **AGAP2** | **AGAP2** | **255** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **centaurin, gamma 1 isoform PIKE-L** |  |  |  |  |  |
| **12** | **chr12:65514789-65515243** | **2.7E-08** | **WIF1** | **WIF1** | **103** | **12q14 microdeletion syndrome** | **Y** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **WNT inhibitory factor 1 precursor** | **Y** |  | **15527894** | **regulates beta-catenin signaling in forebrain** |  |
| **64** | **chr12:6887834-6888378** | **5.1E-06** | **intergenic** | **LAG3** | **6165** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A8,A13** | **lymphocyte-activation protein 3 precursor** |  |  |  |  |  |
| **29** | **chr13:111767589-111767752** | **4.9E-05** | **ARHGEF7** | **ARHGEF7** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **PAK-interacting exchange factor beta isoform a** |  |  |  |  |  |
| **183** | **chr13:115079655-115079928** | **2.8E-04** | **intergenic** | **ZNF828** | **36** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **zinc finger protein 828** |  |  |  |  |  |
| **74** | **chr13:36728834-36729590** | **1.7E-15** | **intergenic** | **DCLK1** | **23320** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **RecName: Full=Serine/threonine-protein kinase DCLK1; EC=2.7.11.1; AltName: Full=Doublecortin-like and CAM kinase-like 1; Short=Doublecortin-like kinase 1;** |  |  |  |  |  |
| **22** | **chr13:38444027-38444499** | **7.7E-19** | **intergenic** | **TRPC4** | **88** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **SubName: Full=Transient receptor potential cation channel, subfamily C, member 4; SubName: Full=Transient receptor potential channel 4 zeta splice variant; SubName: Full=Transient receptor potential cation channel, subfamily C, member 4, isoform CRA\_d;** | **Y** |  | **20865744** | **prolonged afterdepolarizations following muscarinic stimulation** |  |
| **113** | **chr13:42614669-42615019** | **3.4E-08** | **intergenic** | **DGKH** | **7869** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **RecName: Full=Diacylglycerol kinase eta; Short=DAG kinase eta; EC=2.7.1.107; AltName: Full=Diglyceride kinase eta; Short=DGK-eta;** |  |  |  |  |  |
| **202** | **chr14:100437704-100438086** | **1.5E-10** | **intergenic** | **EVL** | **93664** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **Enah/Vasp-like** |  |  |  |  |  |
| **1** | **chr14:105714919-105715798** | **1.1E-29** | **BTBD6** | **BTBD6** | **41** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **BTB domain protein BDPL** | **Y** |  | **18855900** | **BTBD6/lute is required for proper embryogenesis and neuronal development.** |  |
| **149** | **chr14:50335003-50335306** | **8.0E-09** | **intergenic** | **SDCCAG1** | **15464** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **RecName: Full=Serologically defined colon cancer antigen 1; AltName: Full=Antigen NY-CO-1;** |  |  |  |  |  |
| **3** | **chr14:70014358-70015028** | **7.0E-09** | **intergenic** | **C14orf162** | **22890** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A10** |  |  |  |  |  |  |
| **189** | **chr14:75745230-75747789** | **0.0E+00** | **FOS** | **FOS** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A1,A4,A11,A14,A16** | **v-fos FBJ murine osteosarcoma viral oncogene** | **Y** |  | **21287731** | **early response gene , regulated by neuronal-activity** |  |
| **108** | **chr15:28982675-28983373** | **6.6E-13** | **WHAMML2** | **WHAMML2** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **Homo sapiens cDNA FLJ33935 fis, clone CTONG2017910.** |  |  |  |  |  |
| **107** | **chr15:31620238-31620969** | **1.9E-33** | **KLF13** | **KLF13** | **1156** | **15q13.3 microdeletion syndrome** | **Y** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **Kruppel-like factor 13** |  |  |  |  |  |
| **157** | **chr15:31733176-31733680** | **6.9E-18** | **intergenic** | **KLF13** | **114094** | **15q13.3 microdeletion syndrome** | **Y** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **Kruppel-like factor 13** |  |  |  |  |  |
| **90** | **chr15:32322645-32322956** | **4.6E-10** | **CHRNA7** | **CHRNA7** | **0** | **15q13.3 microdeletion syndrome** | **Y** | **N/A** | **N/A** | **N/A** | **19736351, 19058789** | **A5,A13** | **Homo sapiens nicotinic cholinergic receptor alpha 7 (CHRNA7) mRNA, complete cds.** | **Y** | **Y** | **20927308** | **associated with schizophrenia and cortical function** |  |
| **200** | **chr15:34330896-34331595** | **2.7E-29** | **CHRM5** | **AVEN** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **cell death regulator aven** |  |  | **16388850** |  |  |
| **134** | **chr15:42867216-42867774** | **5.2E-16** | **intergenic** | **STARD9** | **82** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** |  |  |  |  |  |  |
| **169** | **chr15:65714680-65715281** | **2.3E-09** | **IGDCC4** | **IGDCC4** | **129** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A6** | **immunoglobulin superfamily, DCC subclass, member** |  |  |  |  |  |
| **57** | **chr16:2185335-2185956** | **1.0E-17** | **PKD1** | **PKD1** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **Homo sapiens mRNA for Polycystin 1 precursor variant protein.** |  |  |  |  |  |
| **53** | **chr16:2587845-2588471** | **4.6E-24** | **PDPK1** | **PDPK1** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **3-phosphoinositide dependent protein kinase-1** |  |  |  |  |  |
| **9** | **chr16:2765372-2765954** | **4.8E-09** | **PRSS27** | **PRSS27** | **4598** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A7** | **Homo sapiens PRSS27 mRNA for serine protease 27, complete cds.** |  |  |  |  |  |
| **84** | **chr16:28269428-28273850** | **1.6E-127** | **intergenic** | **SBK1** | **29989** | **16p11.2-p12.2 microdeletion syndrome** | **Y** | **N/A** | **N/A** | **N/A** | **N/A** | **A11,A14** | **SH3-binding kinase 1** |  |  |  |  |  |
| **176** | **chr16:30418921-30419634** | **3.5E-32** | **ZNF771** | **ZNF771** | **187** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **Homo sapiens cDNA FLJ10543 fis, clone NT2RP2001427.** |  |  |  |  |  |
| **178** | **chr16:30760398-30760657** | **2.9E-06** | **PHKG2** | **PHKG2** | **779** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A4,A11** | **SubName: Full=Phosphorylase kinase catalytic subunit PHKG2 homolog protein; Flags: Fragment;** |  |  |  |  |  |
| **15** | **chr16:330058-330461** | **9.1E-07** | **intergenic** | **ARHGDIG** | **144** | **ATR-16 syndrome** | **Y** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A11** | **SubName: Full=cDNA FLJ42941 fis, clone BRSTN2000872, highly similar to Protein disulfide-isomerase A2; EC=5.3.4.1;** |  |  |  |  |  |
| **36** | **chr16:58497445-58498258** | **3.5E-32** | **NDRG4** | **NDRG4** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **NDRG family member 4 isoform 1** | **Y** |  | **11978393** | **neurite outgrowth** |  |
| **87** | **chr16:750427-750948** | **3.3E-08** | **FBXL16** | **FBXL16** | **4877** | **ATR-16 syndrome** | **Y** | **N/A** | **N/A** | **N/A** | **N/A** | **A2,A11** | **Homo sapiens cDNA FLJ33735 fis, clone BRAWH2018317, highly similar to F-box/LRR-repeat protein 16.** |  |  |  |  |  |
| **92** | **chr16:85644827-85645474** | **3.2E-12** | **KIAA0182** | **KIAA0182** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A7** | **SubName: Full=cDNA FLJ45416 fis, clone BRHIP3033806;** |  |  |  |  |  |
| **118** | **chr17:1011910-1012812** | **6.9E-22** | **ABR** | **ABR** | **0** | **Miller-Dieker syndrome (MDS)** | **N** | **N/A** | **N/A** | **N/A** | **N/A** | **A2,A5** | **Synthetic construct DNA, clone: pF1KB3726, Homo sapiens ABR gene for active breakpoint cluster region-related protein, complete cds, without stop codon, in Flexi system.** |  |  |  |  |  |
| **8** | **chr17:16310250-16310990** | **8.8E-15** | **intergenic** | **TRPV2** | **7865** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A2,A5** | **transient receptor potential cation channel,** |  |  |  |  |  |
| **43** | **chr17:29718703-29719053** | **5.4E-06** | **RAB11FIP4** | **RAB11FIP4** | **62** | **NF1-microdeletion syndrome** | **Y** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **RAB11 family interacting protein 4 (class II)** | **Y** |  | **18850118** | **neurofibroma formation** |  |
| **56** | **chr17:36413148-36413309** | **1.3E-04** | **LOC440434** | **LOC440434** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A9,A13** |  |  |  |  |  |  |
| **50** | **chr17:36861453-36861790** | **4.5E-15** | **intergenic** | **MLLT6** | **82** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **myeloid/lymphoid or mixed-lineage leukemia** |  |  |  |  |  |
| **76** | **chr17:38501005-38502170** | **6.1E-64** | **RARA** | **RARA** | **2735** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A4,A11** | **retinoic acid receptor, alpha isoform 4** |  |  |  |  |  |
| **210** | **chr17:42187667-42188598** | **1.8E-17** | **HDAC5** | **HDAC5** | **12416** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A4,A11** | **histone deacetylase 5 isoform 1** |  |  |  |  |  |
| **186** | **chr17:45608460-45608693** | **1.5E-05** | **NPEPPS** | **NPEPPS** | **17** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **Homo sapiens mRNA for puromycin sensitive aminopeptidase, partial.** | **Y** | **Y** | **16950154** | **PSA loss of function exacerbates neurodegeneration** |  |
| **209** | **chr17:47492490-47492685** | **1.6E-09** | **intergenic** | **PHB** | **248** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A1,A11** | **prohibitin** | **Y** |  | **20403401** | **mitochondrial function in neurons** |  |
| **97** | **chr17:61515129-61515290** | **3.9E-08** | **CYB561** | **CYB561** | **2917** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A3,A4,A5,A6,A15,A16** | **cytochrome b-561** |  |  |  |  |  |
| **51** | **chr17:62915007-62915344** | **5.3E-13** | **intergenic** | **LRRC37A3** | **104** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **SubName: Full=Putative uncharacterized protein LRRC37A3;** |  |  |  |  |  |
| **194** | **chr17:77179622-77180024** | **6.8E-04** | **RBFOX3** | **ENGASE** | **108604** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A2,A5** | **RecName: Full=Cytosolic endo-beta-N-acetylglucosaminidase; Short=ENGase; EC=3.2.1.96;** |  |  |  |  |  |
| **6** | **chr17:7919355-7920148** | **3.1E-07** | **GUCY2D** | **GUCY2D** | **13368** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A2,A7** | **guanylate cyclase 2D, membrane (retina-specific)** |  |  |  |  |  |
| **63** | **chr18:11947201-11948134** | **4.6E-13** | **intergenic** | **IMPA2** | **33320** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A10** | **Homo sapiens myo-inositol monophosphatase 2 mRNA, complete cds.** |  |  |  |  |  |
| **68** | **chr18:13824114-13824276** | **1.0E-05** | **intergenic** | **MC5R** | **1266** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **melanocortin 5 receptor** | **Y** |  | **17286587** |  |  |
| **105** | **chr18:74534449-74534690** | **6.7E-09** | **intergenic** | **ZNF236** | **1425** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **SubName: Full=CDNA FLJ20840 fis, clone ADKA02336;** |  |  |  |  |  |
| **201** | **chr19:11199928-11201073** | **1.2E-86** | **LDLR** | **LDLR** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A1,A4** | **Homo sapiens mRNA for low density lipoprotein receptor precursor variant protein.** | **Y** | **Y** | **20049331** | **Alzheimer's disease** |  |
| **141** | **chr19:1241764-1242674** | **1.9E-39** | **ATP5D** | **ATP5D** | **16** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **ATP synthase, H+ transporting, mitochondrial F1** |  |  |  |  |  |
| **101** | **chr19:1248210-1249583** | **2.7E-64** | **MIDN** | **MIDN** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A1,A4** | **midnolin** | **Y** | **Y** | **10974535** | **neurogenesis** |  |
| **83** | **chr19:1249777-1253257** | **0.0E+00** | **MIDN** | **MIDN** | **1226** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A4,A11** | **midnolin** | **Y** | **Y** | **10974535** | **neurogenesis** |  |
| **4** | **chr19:12893421-12894298** | **1.9E-25** | **intergenic** | **HOOK2** | **6987** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **Homo sapiens hook2 protein (HOOK2) mRNA, complete cds.** |  |  |  |  |  |
| **78** | **chr19:13263852-13265646** | **1.4E-121** | **IER2** | **IER2** | **2571** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A11,A14,A16** | **immediate early response 2** |  |  |  |  |  |
| **171** | **chr19:19515790-19516625** | **1.5E-11** | **GATAD2A** | **GATAD2A** | **19149** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **SubName: Full=cDNA FLJ60209, highly similar to Transcriptional repressor p66 alpha;** |  |  |  |  |  |
| **211** | **chr19:2701734-2702072** | **9.4E-06** | **GNG7** | **GNG7** | **674** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A2,A11,A16** | **guanine nucleotide binding protein (G protein),** | **Y** | **Y** | **20452571** | **risk locus for depression** |  |
| **135** | **chr19:3228737-3229124** | **1.0E-11** | **CELF5** | **CELF5** | **3255** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** |  |  |  |  |  |  |
| **31** | **chr19:35491197-35491519** | **2.3E-25** | **GRAMD1A** | **GRAMD1A** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **GRAM domain containing 1A isoform 1** |  |  |  |  |  |
| **71** | **chr19:38880433-38880946** | **2.8E-23** | **SPRED3** | **SPRED3** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A1,A11,A14** | **sprouty-related, EVH1 domain containing 3** |  |  |  |  |  |
| **54** | **chr19:4007759-4007957** | **2.7E-32** | **PIAS4** | **PIAS4** | **11** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **protein inhibitor of activated STAT, 4** |  |  |  |  |  |
| **81** | **chr19:4184062-4185323** | **2.4E-42** | **ANKRD24** | **ANKRD24** | **712** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A9,A13** | **ankyrin repeat domain 24** |  |  |  |  |  |
| **138** | **chr19:42784728-42785293** | **1.3E-15** | **intergenic** | **CIC** | **3523** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **capicua homolog** |  |  |  |  |  |
| **24** | **chr19:45942888-45943467** | **1.1E-17** | **intergenic** | **ERCC1** | **15711** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **SubName: Full=Excision repair protein 1; SubName: Full=Excision repair cross-complementing rodent repair deficiency, complementation group 1 (Includes overlapping antisense sequence), isoform CRA\_b;** |  |  |  |  |  |
| **67** | **chr19:49436520-49437438** | **1.6E-14** | **DHDH** | **DHDH** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **dimeric dihydrodiol dehydrogenase** |  |  |  |  |  |
| **94** | **chr19:50094383-50094829** | **7.0E-28** | **intergenic** | **PRR12** | **82** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **proline rich 12** |  |  |  |  |  |
| **172** | **chr19:54464727-54465702** | **7.5E-28** | **intergenic** | **CACNG8** | **587** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A1,A4,A11** | **voltage-dependent calcium channel gamma-8** |  |  |  |  |  |
| **98** | **chr19:8578817-8579009** | **5.8E-63** | **ZNF414** | **ZNF414** | **39** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **zinc finger protein 414 isoform 2** |  |  |  |  |  |
| **120** | **chr2:112896083-112896579** | **3.3E-09** | **FBLN7** | **FBLN7** | **122** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **RecName: Full=Fibulin-7; Short=FIBL-7; Flags: Precursor;** |  |  |  |  |  |
| **38** | **chr2:122494551-122495012** | **2.8E-16** | **intergenic** | **MKI67IP** | **48** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **MKI67 interacting nucleolar phosphoprotein** |  |  |  |  |  |
| **124** | **chr2:145089843-145090148** | **2.0E-11** | **GTDC1** | **GTDC1** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **glycosyltransferase-like domain containing 1** |  | **Y** | **20145308** | **Hirschsprung disease** |  |
| **95** | **chr2:219270990-219271223** | **7.7E-15** | **intergenic** | **MIR26B** | **3622** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** |  |  |  |  |  |  |
| **173** | **chr2:223536039-223536794** | **2.0E-08** | **MOGAT1** | **MOGAT1** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A7** | **monoacylglycerol O-acyltransferase 1** |  |  |  |  |  |
| **45** | **chr2:235405343-235405690** | **7.4E-14** | **ARL4C** | **ARL4C** | **3** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **ADP-ribosylation factor-like 4C** |  |  |  |  |  |
| **47** | **chr2:241392193-241392722** | **1.2E-29** | **GPC1** | **MIR149** | **2695** | **2q37 monosomy** | **Y** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** |  |  |  |  |  |  |
| **70** | **chr2:25564208-25564370** | **4.0E-04** | **DNMT3A** | **DNMT3A** | **404** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **DNA cytosine methyltransferase 3 alpha isoform** | **Y** |  | **17878930** | **regulates DNA methylation in differentiated neurons** |  |
| **91** | **chr2:38304143-38304502** | **1.3E-06** | **intergenic** | **CYP1B1** | **820** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **19598235** | **A5,A13** | **cytochrome P450, family 1, subfamily B,** |  |  |  |  |  |
| **117** | **chr2:64995039-64995596** | **3.0E-21** | **intergenic** | **SERTAD2** | **113993** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **SERTA domain containing 2** |  |  |  |  |  |
| **55** | **chr2:86564574-86564802** | **1.2E-09** | **REEP1** | **REEP1** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **SubName: Full=cDNA FLJ59926, moderately similar to Receptor expression-enhancing protein 1;** |  | **Y** | **21060088** | **hereditary spastic paraplegia** |  |
| **170** | **chr20:10152793-10153441** | **6.6E-13** | **intergenic** | **SNAP25** | **46035** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **Synthetic construct DNA, clone: pF1KB5384, Homo sapiens SNAP25 gene for synaptosomal-associated protein, without stop codon, in Flexi system.** |  |  |  |  |  |
| **145** | **chr20:3995214-3996638** | **1.1E-65** | **RNF24** | **RNF24** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **ring finger protein 24 isoform 1** |  |  |  |  |  |
| **5** | **chr20:41818633-41819294** | **5.9E-39** | **intergenic** | **PTPRT** | **76** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A9,A13** | **protein tyrosine phosphatase, receptor type, T** | **Y** |  | **19546859** | **restless legs syndrome and ADHD** |  |
| **35** | **chr20:42136351-42136725** | **4.0E-28** | **L3MBTL1** | **L3MBTL1** | **32** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** |  |  |  |  |  |  |
| **109** | **chr20:43439225-43439821** | **2.5E-19** | **intergenic** | **RIMS4** | **313** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **regulating synaptic membrane exocytosis 4** |  |  |  |  |  |
| **143** | **chr20:61808911-61810750** | **1.2E-104** | **MIR124-3** | **MIR124-3** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** |  |  |  |  |  |  |
| **139** | **chr21:28215425-28215620** | **2.0E-04** | **ADAMTS1** | **ADAMTS1** | **2108** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A2,A7,A14** | **ADAM metallopeptidase with thrombospondin type 1** |  |  |  |  |  |
| **39** | **chr21:30671167-30671532** | **1.8E-13** | **BACH1** | **BACH1** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **BTB and CNC homology 1 transcription factor** | **Y** | **Y** | **15068251** | **Overexpressed in fetal Down syndrome brain.** |  |
| **179** | **chr22:24372282-24374101** | **1.4E-86** | **LOC391322** | **LOC391322** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A11,A16** | **similar to D-dopachrome tautomerase** |  |  |  |  | **A16 has microdeletion** |
| **197** | **chr22:24383095-24385020** | **9.2E-69** | **GSTT1** | **GSTT1** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A11,A16** | **Homo sapiens glutathione transferase T1-1 mRNA, complete cds.** | **Y** | **Y** | **21093063** | **schizophrenia risk gene** | **A16 has microdeletion** |
| **26** | **chr22:36424707-36425109** | **2.6E-10** | **intergenic** | **RBFOX2** | **122** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** |  |  |  |  |  |  |
| **163** | **chr22:50356248-50356576** | **6.1E-19** | **PIM3** | **PIM3** | **2106** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A1,A4** | **serine/threonine protein kinase pim-3** |  |  |  |  |  |
| **23** | **chr3:115502689-115503519** | **6.9E-20** | **intergenic** | **GAP43** | **160539** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **growth associated protein 43 isoform 2** |  |  |  |  |  |
| **146** | **chr3:12045796-12046167** | **2.5E-14** | **SYN2** | **SYN2** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **synapsin II isoform IIa** | **Y** | **Y** | **20034013** | **schizophrenia and epilepsy** |  |
| **162** | **chr3:133393045-133393643** | **2.0E-15** | **intergenic** | **TOPBP1** | **12308** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A3,A5** | **topoisomerase (DNA) II binding protein 1** |  |  |  |  |  |
| **212** | **chr3:193852187-193852806** | **1.0E-09** | **intergenic** | **HES1** | **1127** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **19058789** | **A5,A13** | **hairy and enhancer of split 1** | **Y** |  | **21169561** | **sensory neuron differentiation** |  |
| **137** | **chr3:27674208-27674759** | **7.7E-10** | **intergenic** | **EOMES** | **89026** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **RecName: Full=Eomesodermin homolog;** |  |  |  |  |  |
| **180** | **chr3:36805280-36805853** | **8.0E-12** | **intergenic** | **DCLK3** | **23928** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **doublecortin-like kinase 3** |  |  |  |  |  |
| **104** | **chr3:49131127-49131494** | **5.6E-51** | **QRICH1** | **QRICH1** | **10** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **glutamine-rich 1** |  |  |  |  |  |
| **41** | **chr3:51422637-51423035** | **1.6E-12** | **MANF** | **MANF** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **mesencephalic astrocyte-derived neurotrophic** | **Y** |  | **21047780** | **neuronal apoptosis** |  |
| **119** | **chr3:52719707-52719948** | **3.8E-41** | **GNL3** | **GNL3** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **Synthetic construct DNA, clone: pF1KB8157, Homo sapiens GNL3 gene for guanine nucleotide binding protein-like 3, without stop codon, in Flexi system.** |  |  |  |  |  |
| **208** | **chr4:2062886-2063393** | **4.4E-14** | **NAT8L** | **NAT8L** | **1648** | **Wolf-Hirschhorn Syndrome** | **Y** | **N/A** | **N/A** | **N/A** | **N/A** | **A2,A4,A11** | **N-acetyltransferase 8-like (GCN5-related,** |  |  |  |  |  |
| **103** | **chr4:22517366-22517767** | **1.6E-12** | **GPR125** | **GPR125** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **G protein-coupled receptor 125 precursor** | **Y** | **Y** | **17457313** | **chromosome 4p15-p16 candidate region for bipolar disorder and schizophrenia.** |  |
| **199** | **chr4:3414835-3416479** | **1.6E-83** | **RGS12** | **HGFAC** | **27246** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A1,A4,A16** | **HGF activator preproprotein** |  |  |  |  |  |
| **206** | **chr4:819744-820009** | **2.9E-13** | **CPLX1** | **CPLX1** | **0** | **Wolf-Hirschhorn Syndrome** | **Y** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **complexin 1** | **Y** | **Y** | **17188502** | **scaffolding protein expressed at altered levels in schizophrenia and depression** |  |
| **115** | **chr4:84205705-84205953** | **9.1E-25** | **COQ2** | **COQ2** | **114** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **Homo sapiens clone 640 unknown mRNA, complete sequence.** |  |  |  |  |  |
| **69** | **chr4:88141825-88142025** | **8.7E-12** | **intergenic** | **KLHL8** | **151** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **SubName: Full=KLHL8 protein;** |  |  |  |  |  |
| **188** | **chr5:141702214-141706670** | **1.3E-188** | **SPRY4** | **SPRY4** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A1,A4,A14,A16** | **sprouty homolog 4 isoform 2** | **Y** | **Y** |  | **risk gene for psychosis and schizophrenia** |  |
| **34** | **chr6:11537445-11537627** | **9.1E-22** | **intergenic** | **TMEM170B** | **883** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **transmembrane protein 170B** |  |  |  |  |  |
| **175** | **chr6:160426756-160427575** | **3.0E-31** | **IGF2R** | **IGF2R** | **36626** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A7** | **insulin-like growth factor 2 receptor precursor** |  |  |  |  |  |
| **111** | **chr6:163835669-163836132** | **7.8E-13** | **QKI** | **QKI** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **quaking homolog, KH domain RNA binding isoform** | **Y** | **Y** | **16342280** | **candidate gene for schizophrenia involved in myelination** |  |
| **88** | **chr6:170123627-170124026** | **1.9E-07** | **PHF10** | **PHF10** | **80** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A2,A5** | **PHD finger protein 10 isoform b** | **Y** |  | **19561591** | **essential for neural-progenitor proliferation and neural-tube closure** |  |
| **72** | **chr6:31334467-31335042** | **2.8E-06** | **intergenic** | **HLA-B** | **9478** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **SubName: Full=MHC class I antigen; Flags: Fragment;** |  |  |  |  |  |
| **152** | **chr6:33422367-33422709** | **5.4E-16** | **ZBTB9** | **ZBTB9** | **12** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **zinc finger and BTB domain containing 9** |  |  |  |  |  |
| **156** | **chr6:34191836-34192337** | **2.1E-06** | **intergenic** | **HMGA1** | **12239** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A2,A5** | **Homo sapiens high mobility group protein-R mRNA, complete cds.** |  | **Y** | **15363492** | **Alzheimer's disease** |  |
| **184** | **chr6:34204391-34205215** | **3.2E-35** | **HMGA1** | **HMGA1** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **Homo sapiens high mobility group protein-R mRNA, complete cds.** |  | **Y** | **15363492** | **Alzheimer's disease** |  |
| **221** | **chr6:42928184-42928776** | **5.1E-40** | **GNMT** | **GNMT** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A2,A5,A6,A7** | **glycine N-methyltransferase** | **Y** |  | **20633125** | **regulates neuronal survival** |  |
| **190** | **chr6:44194709-44195472** | **2.1E-23** | **SLC29A1** | **SLC29A1** | **3347** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A11** | **equilibrative nucleoside transporter 1** |  |  |  |  |  |
| **58** | **chr6:74405322-74405700** | **1.4E-06** | **CD109** | **CD109** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **CD109 antigen isoform 2 precursor** |  |  |  |  |  |
| **46** | **chr6:91006144-91006761** | **3.6E-11** | **BACH2** | **BACH2** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **BTB and CNC homology 1, basic leucine zipper** | **Y** |  | **16631738** | **upregulated expression in differentiated neurons** |  |
| **166** | **chr7:100136844-100137205** | **1.8E-27** | **AGFG2** | **AGFG2** | **11** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **RecName: Full=Arf-GAP domain and FG repeats-containing protein 2; AltName: Full=HIV-1 Rev-binding protein-like protein; AltName: Full=Rev/Rex activation domain-binding protein related; Short=RAB-R;** |  |  |  |  |  |
| **79** | **chr7:100805346-100811760** | **0.0E+00** | **VGF** | **VGF** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **19598235** | **A1,A4** | **VGF nerve growth factor inducible precursor** | **Y** | **Y** | **20631166** | **altered expression in bipolar disorder** |  |
| **123** | **chr7:140624559-140624712** | **8.5E-11** | **BRAF** | **BRAF** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **B-Raf** |  |  |  |  |  |
| **30** | **chr7:1544073-1544476** | **1.6E-21** | **intergenic** | **INTS1** | **55** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **Homo sapiens cDNA FLJ36490 fis, clone THYMU2018189.** |  |  |  |  |  |
| **151** | **chr7:1577091-1577799** | **1.3E-46** | **MAFK** | **MAFK** | **6724** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A1,A4** | **Synthetic construct DNA, clone: pF1KB4144, Homo sapiens MAFK gene for transcription factor MafK, complete cds, without stop codon, in Flexi system.** |  |  |  |  |  |
| **44** | **chr7:16793027-16793367** | **1.9E-18** | **TSPAN13** | **TSPAN13** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **tetraspan NET-6** |  |  |  |  |  |
| **159** | **chr7:27702742-27702905** | **2.6E-11** | **intergenic** | **HIBADH** | **122** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A9,A13** | **3-hydroxyisobutyrate dehydrogenase precursor** |  |  |  |  |  |
| **116** | **chr7:993965-994523** | **3.8E-13** | **ADAP1** | **ADAP1** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **centaurin, alpha 1** |  |  |  |  |  |
| **21** | **chr8:120220014-120220619** | **6.7E-13** | **MAL2** | **MAL2** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **MAL2 proteolipid protein** | **Y** |  | **20053882** | **preferentially associated with VGLUT-1-containing nerve terminals.** |  |
| **82** | **chr8:143697546-143698608** | **8.6E-37** | **intergenic** | **ARC** | **1713** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A1,A11,A14,A16** | **activity-regulated cytoskeleton-associated** | **Y** |  | **20211139** | **neuronal activity regulated, induces Ube3A transcription** |  |
| **125** | **chr8:145027155-145027598** | **1.4E-08** | **PLEC** | **PLEC** | **490** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** |  |  |  |  |  |  |
| **164** | **chr8:145287933-145288898** | **1.5E-49** | **HEATR7A** | **SCXA** | **32618** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** |  |  |  |  |  |  |
| **48** | **chr8:145688023-145688762** | **1.6E-09** | **CYHR1** | **CYHR1** | **1656** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **cysteine/histidine-rich 1 isoform 2** |  |  |  |  |  |
| **168** | **chr8:17020590-17020906** | **3.8E-05** | **ZDHHC2** | **ZDHHC2** | **6755** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A9** | **zinc finger, DHHC-type containing 2** |  |  |  |  |  |
| **203** | **chr8:1921573-1923014** | **4.7E-38** | **KBTBD11** | **KBTBD11** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **kelch repeat and BTB (POZ) domain containing 11** |  |  |  |  |  |
| **73** | **chr8:21917453-21917863** | **5.1E-11** | **EPB49** | **EPB49** | **768** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A11,A13** | **erythrocyte membrane protein band 4.9 isoform 3** |  |  |  |  |  |
| **193** | **chr8:2585100-2586223** | **3.8E-31** | **intergenic** | **MYOM2** | **591943** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A15** | **myomesin 2** |  |  |  |  |  |
| **161** | **chr8:41754361-41754720** | **1.3E-05** | **intergenic** | **ANK1** | **81** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **ankyrin 1 isoform 7** |  |  |  |  |  |
| **205** | **chr8:67090073-67090882** | **3.0E-14** | **CRH** | **CRH** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A14,A16** | **corticotropin releasing hormone precursor** | **Y** |  | **20943787** | **stress-regulated expression in brain** |  |
| **160** | **chr8:80803696-80804090** | **6.9E-09** | **intergenic** | **HEY1** | **123598** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **hairy/enhancer-of-split related with YRPW motif** |  |  |  |  |  |
| **17** | **chr8:95003632-95004187** | **1.5E-11** | **intergenic** | **PDP1** | **73641** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **pyruvate dehyrogenase phosphatase catalytic** |  |  |  |  |  |
| **16** | **chr9:101867357-101867613** | **1.0E-05** | **TGFBR1** | **TGFBR1** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **transforming growth factor, beta receptor I** |  | **Y** | **19542084** | **mutations associated with mental retardation.** |  |
| **132** | **chr9:102581361-102582369** | **2.4E-20** | **intergenic** | **NR4A3** | **1767** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **nuclear receptor subfamily 4, group A, member 3** | **Y** |  | **20659174** | **expressed in dopamine neurons and in dopaminoceptive brain areas** |  |
| **165** | **chr9:124329289-124330740** | **1.4E-85** | **DAB2IP** | **DAB2IP** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A1,A4,A11** | **disabled homolog 2 interacting protein isoform** | **Y** |  | **12877983** | **downstream effector for Reelin and Ras signaling during brain development.** |  |
| **96** | **chr9:126761997-126762441** | **7.9E-16** | **intergenic** | **LHX2** | **11447** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **LIM homeobox protein 2** |  |  |  |  |  |
| **122** | **chr9:129677047-129677572** | **6.6E-17** | **RALGPS1** | **RALGPS1** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **Ral GEF with PH domain and SH3 binding motif 1** |  |  |  |  |  |
| **148** | **chr9:139560484-139560990** | **2.5E-14** | **EGFL7** | **EGFL7** | **3103** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **EGF-like-domain, multiple 7** |  |  |  |  |  |
| **33** | **chr9:140444785-140445369** | **3.2E-33** | **PNPLA7** | **PNPLA7** | **0** | **9q subtelomeric deletion syndrome** | **Y** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A9** | **patatin-like phospholipase domain containing 7** |  |  |  |  |  |
| **110** | **chr9:140445421-140446124** | **4.9E-29** | **intergenic** | **MRPL41** | **184** | **9q subtelomeric deletion syndrome** | **Y** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **mitochondrial ribosomal protein L41** |  |  |  |  |  |
| **93** | **chr9:14322699-14322911** | **7.1E-12** | **NFIB** | **NFIB** | **8654** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **nuclear factor I/B** |  |  |  |  |  |
| **13** | **chr9:34989505-34993156** | **1.3E-202** | **DNAJB5** | **DNAJB5** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A4,A14** | **DnaJ (Hsp40) homolog, subfamily B, member 5** |  |  |  |  |  |
| **182** | **chr9:41936401-41936658** | **3.5E-08** | **intergenic** | **MGC21881** | **18418** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A8,A13** | **Homo sapiens cDNA FLJ34986 fis, clone OCBBF2010945.** |  |  |  |  |  |
| **49** | **chrX:10126548-10126913** | **4.3E-17** | **CLCN4** | **CLCN4** | **1564** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **chloride channel 4** |  |  |  |  |  |
| **131** | **chrX:125299939-125300503** | **3.4E-16** | **DCAF12L2** | **DCAF12L2** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **DDB1 and CUL4 associated factor 12-like 2** |  |  |  |  |  |
| **65** | **chrX:134137789-134138265** | **6.3E-05** | **intergenic** | **LOC644538** | **12822** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A2,A5** | **hypothetical protein LOC644538** |  |  |  |  |  |
| **37** | **chrX:135579458-135579618** | **2.0E-12** | **HTATSF1** | **HTATSF1** | **52** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **HIV-1 Tat specific factor 1** | **Y** |  | **15050687** | **growth inhibition of astrocytes and neurons** |  |
| **20** | **chrX:152938662-152939173** | **4.5E-15** | **PNCK** | **PNCK** | **0** | **Xq28 (MECP2) duplication** | **Y** | **N/A** | **N/A** | **N/A** | **N/A** | **A2,A5,A13** | **Homo sapiens cDNA FLJ50403 complete cds, highly similar to Calcium/calmodulin-dependent protein kinase type 1B (EC 2.7.11.17).** | **Y** |  | **17553424** | **Ca(2+)-and extrinsic activity-regulated dendrite formation in cortical neurons.** |  |
| **153** | **chrX:17879075-17879897** | **4.1E-11** | **RAI2** | **RAI2** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **retinoic acid induced 2** | **Y** | **Y** | **16713557** | **Purkinje cell degeneration** |  |
| **177** | **chrX:40943780-40943979** | **8.9E-20** | **intergenic** | **USP9X** | **908** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **ubiquitin specific protease 9, X-linked isoform** | **Y** |  | **20155936** | **potentially associated with neurodegeneration** |  |
| **155** | **chrX:46404494-46404882** | **2.3E-08** | **ZNF674** | **ZNF674** | **10** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **zinc finger family member 674 isoform 2** | **Y** | **Y** | **19160128** | **mutations linked to mental retardation ?** |  |
| **100** | **chrX:49643851-49644628** | **2.8E-09** | **USP27X** | **USP27X** | **0** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **X-linked ubiquitin thioesterase 27** | **Y** | **Y** | **21268055** | **human neurodevelopmental disorders** |  |
| **25** | **chrX:77394459-77395144** | **7.4E-21** | **TAF9B** | **TAF9B** | **35** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** | **A5,A13** | **transcription associated factor 9B** |  |  |  |  |  |