Table 9. Genes that show postmortem changes in bipolar disorders, schizophrenia, depression, and other disorders

Human Postmortem Changes in genes from our dataset (Categories I-IV)	Brain Region, Drug, Category (Change)
BIPOLAR	
- APOD – apolipoprotein D	**CP** METH IV (I/I)
- BDNF - brain-derived neurotrophic factor	**PFC** METH IV (D/D)
- CLDN11 - Oligodendrocyte specific protein	**CP** II (I/I/I/I)
- FREQ (NCS-1) - frequenin homolog (Drosophila) neuronal calcium sensor	**AMY** VPA III (I/I)
- 5HTR2C - 5-hydroxytryptamine (serotonin) receptor 2C	**CP** METH IV (MI/I)
- MAP2 – microtubule-associated protein 2	**CP** VPA IV (I/I)
- MAPT - microtubule-associated protein tau	**AMY** METH III (D/D)
- PITPNB - phosphotidylinositol transfer protein, beta	**CP** II (I/I/I/I)
- PLP1 - proteolipid protein (myelin)	**AMY** VPA III (I/I), **CP** VPA IV (I/I)
- SYP – synaptophysin	**AMY** VPA III (I/I)
- TBR1 – T-box brain gene 1	**CP** II (D/D/D/D), **NA** VPA IV (D/D)
SCHIZOPHRENIA	
- ADORA2A - adenosine A2a receptor	**NA** METH IV (D/D)
- APOD - apolipoprotein D	**CP** METH IV (I/I)
- BDNF - brain-derived neurotrophic factor	**PFC** METH IV (D/D)
- CCK – Cholecystokinin	**CP** II (D/D/D/D), **NA** METH IV (D/D)
- CHRM1 - cholinergic receptor, muscarinic 1	**CP** VPA IV (I/I)
- CLDN11 - Oligodendrocyte specific protein	**CP** II (I/I/I/I)
- CPLX1 – complexin 1	**CP** VPA IV (I/I), **VT** METH IV (I/I)
- DARPP-32 - PPP1R1B - protein phosphatase 1, regulatory (inhibitor) subunit 1B	**PFC** I (I/I/I/I)
- DAT1 – SLC6A3 - solute carrier family 6 (neurotransmitter transporter, dopamine), member	**VT** METH IV (I/I)
- FREQ (NCS-1) - frequenin homolog (Drosophila) neuronal calcium sensor	**AMY** VPA III (I/I)
- GFAP - glial fibrillary acidic protein	**CP** METH IV (I/I), **NA** METH IV (I/I)
- GRIA1 – glutamate receptor, ionotropic, AMPA 1	**VT** METH IV (DD)
- GRIK5 (KA2) - glutamate receptor, ionotropic, kainite 5	**AMY** VPA IV (I/I), **CP** METH (MD/D)
- GRIN1 (NMDA-1) - glutamate receptor, ionotropic, N-methyl D-aspartate 1	**CP** VPA IV (I/I)
- GRM3 – glutamate receptor, metabotropic 3	**PFC** VPA III (D/D)
- GSK3B - Glycogen synthase kinase 3 beta	**PFC** METH IV (D/D), **CP** VPA IV (D/D)
- 5HTR2C - 5-hydroxytryptamine (serotonin) receptor 2C	**CP** METH IV (MI/I)
- LYPLA1 – Lysophospholipase I	**CP** I (I/I/I/I)
- MAG – myelin associated glycoprotein	**CP** METH IV (I/I)
- PENK – Preproenkephalin 2	**PFC** I (I/I/I/I)
- PITPNB - phosphotidylinositol transfer protein, beta	**CP II (I/I/I/I)**
- PLP1 - proteolipid protein (myelin)	**AMY** VPA III (I/I), **CP** VPA IV (I/I)
- RGS4 - regulator of G-protein signalling 4	**CP** VPA IV (I/I)
- SYP – synaptophysin	**AMY** VPA III (I/I)
- SYT1 – Synaptotagmin 1	**CP** II (MI/I/I/I), **AMY** VPA IV (D/D), **VT** VPA IV (I/I)
- TAC1 – Tachykinin 1	**PFC** I (I/I/I/I)
DEPRESSION	
- BDNF - brain-derived neurotrophic factor	**PFC** METH IV (D/D)
- GFAP - glial fibrillary acidic protein	**CP** METH IV (I/I), **NA** METH IV (I/I)
- 5HTR2C - 5-hydroxytryptamine (serotonin) receptor 2C	**CP** METH IV (MI/I)
- TAC1 – Tachykinin 1	**PFC** I (I/I/I/I)
OTHER	
SUICIDE	
- NPY2R - neuropeptide Y receptor Y2	**NA** METH III (I/I)
- 5HTR2C - 5-hydroxytryptamine (serotonin) receptor 2C	**CP** METH IV (MI/I)
- BDNF - brain-derived neurotrophic factor	**PFC** METH IV (D/D)
- CCK - Cholecystokinin	**CP** II (D/D/D/D), **NA** METH IV (D/D)
- GNAI2 - guanine nucleotide binding protein (G protein), alpha inhibiting activity polypeptide 2	**NA** METH III (I/I)
OPIATE ADDICTS - CDK5R1-cyclin-dependent kinase 5, regulatory subunit (p35)–downregulated in brains of opiate addicts	**AMY** II (D/D/D/D), CP VPA III (I/I)
POSTMITOTIC NEURONAL DIFFERENTIATION IN THE CORTEX	
- MEF2C -MADS box transcription enhancer factor 2	**PFC** I (D/D/I/I), AMY VPA III (I/I)
DOWN SYNDROME	
- SYNJ1 - synaptojanin 1 Inositol 5-phosphatase	**AMY** VPA IV (D/D)
- NAPB (beta-SNAP) - N-ethylmaleimide-sensitive factor attachment protein, beta	**AMY** VPA III (D/D)
ALZHEIMER	
- ADAM10 - a disintegrin and metalloproteinase domain	**CP** II (I/I/I/I)
- APOD - apolipoprotein D	**CP** METH IV (I/I)
- CSNK1D - casein kinase 1, delta	**AMY** VPA III (D/D), **CP** VPA IV (I/I)
- DAXX - death-associated protein 6	**AMY** VPA IV (I/I)
- GLUL - glutamate-ammonia ligase (glutamine synthase)	**VT** II (D/D/D/D)
- GSK3B - Glycogen synthase kinase 3 beta	**PFC** METH IV (D/D)
- JNK2 (MAPK9) - mitogen activated protein kinase 9	**CP** VPA III (I/I), **AMY** VPA IV (D/D)
- LYPLA lysophospholipase	**CP** I (I/I/I/I)
- MAPK10 (JNK3) - mitogen-actated protein kinase 10 – c-Jun N-terminal kinase 3	**CP** VPA IV (D/D)
- MAPT - microtubule-associated protein tau	**AMY** METH III (D/D)
- NAPB (beta-SNAP) - N-ethylmaleimide-sensitive factor attachment protein, beta	**AMY** VPA III (D/D)
- PTGDS - Prostaglandin D synthetase	**AMY** METH III (I/I)
- SQSTM1 - Sequestosome 1 ubiquitin-binding protein p62	**AMY** METH III (I/I)
- WASL - Neural Wiskott-Aldrich syndrome protein (N-WASP).	**CP** VPA IV (I/I)
PARKINSON, LEWY BODY DISEASE - YWHAG (14-3-3 gamma) - 3-monooxgenase /tryptophan 5-monooxgenase activation protein, gamma polypeptide	**AMY** VPA IV (D/D), **CP** VPA IV (I/I), **VT** VPA IV (I/I)
HUNTINGTON'S DISEASE	
- NLK - neuroleukin	**CP** VPA III (D/D)
- SLC2A3 (GLUT3) - solute carrier family 2, member 3	**CP** VPA IV (I/I)
- VAMP2 (synaptobrevin) vesicle-associated membrane protein 2	**AMY** VPA III (D/D), **CP** VPA IV (I/I)
PICK' DISEASE - PCSK1N - proprotein convertase subtilisin/kexin type 1 inhibitor	**AMY** VPA IV (I/I), **CP** METH IV (I/I)
HUNTER'S SYNDROME - IDS - iduronate 2-sulfatase	**CP** VPA IV (I/I)
ALS - SOD1 - Cu-Zn superoxide dismutase	**AMY** VPA IV (I/I)
MPS VII - GUSB - glucuronidase, beta	**CP** METH III (I/I)