

Table S6. Marker genes and their mean log2 fold change between zQ175 and zQ175:CK2a^{+/+} mice compared to WT

GeneSymbol	FC_HD.HDHF	P_HD.HDH	Q_HD.HDHET	Module WGNA	Synaptic Function	Gene description	Link Genecards
Gm30085	4.7648641	8.54E-05	0.081847			Unknown	
Grm2	3.2378454	2.45E-05	0.039975	5	YES	Glutamate Metabotropic Receptor 2. Involved in synaptogenesis and/or synaptic stabilization	https://www.genecards.org/cgi-bin/carddisp.pl?gene=GRM2
Slc30a3	3.091492	0.000123	0.09839	5	YES	Solute carrier family 30 member 3 (ZnT-3 family membrane transport protein)	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SLC30A3
Gm42598	2.8563671	7.11E-05	0.078997	20		Unknown	
Gm2824	2.2739586	9.18E-05	0.084999	19		Unknown	
Slc17a7	2.2325005	0.000138	0.09839	5	YES	Vesicular Glutamate transport VGlut1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SLC17A7&keywords=Slc17a7
Nr4a2	2.2250106	1.00E-10	9.26E-07	20	YES	Nuclear receptor related 1 protein (NURR1), is a member of the nuclear receptor family of intracellular	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NR4A2&keywords=Nr4a2
C1ql3	1.7864526	3.99E-07	0.001865	5		C1q/TNF-Related Protein 3, May regulate the number of excitatory synapses that are formed on hippoc	https://www.genecards.org/cgi-bin/carddisp.pl?gene=C1QL3&keywords=C1ql3
lqcl	1.7861791	6.69E-05	0.077457	20	YES	Calmodulin binding motif protein	https://www.genecards.org/cgi-bin/carddisp.pl?gene=lqcl&keywords=lqcl
CZ30012017Rik	1.7844816	0.000134	0.09839	20		Unknown	
Gm17807	1.4859631	8.06E-05	0.081402	20		Unknown	
Tbr1	1.4502627	8.61E-06	0.022609	5	YES	Transcription factor protein important in vertebrate embryo development	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TBR1&keywords=Tbr1
Cckbr	1.3961687	3.71E-06	0.012901	20	YES	G protein-coupled receptor for gastrin and cholecystokinin, influence neurotransmission in the brain, re	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CKBR&keywords=Cckbr
Vxn	1.3540086	1.01E-07	0.000699	19	YES	Vexin, required for neurogenesis in the neural plate and retina. Strongly cooperates with neural bHLH f	https://www.genecards.org/cgi-bin/carddisp.pl?gene=VXN&keywords=Vxn
Col5a1	1.3206734	0.000117	0.09839	16		Collagen Type V Alpha 1 Chain, provides instructions for making a component of type V collagen	https://www.genecards.org/cgi-bin/carddisp.pl?gene=COL5A1&keywords=col5a1
Nrp2	1.10989	5.99E-05	0.075648	5		Neuropilin 2 interacts with vascular endothelial growth factor (VEGF). This protein may play a role in c	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NRP2&keywords=Nrp2
Fbln2	1.0300568	4.03E-07	0.001865	19	YES	This gene encodes an extracellular matrix protein, which belongs to the fibulin family. This protein bind	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FBLN2&keywords=Fbln2
Csnk2a2	0.9857398	1.13E-23	3.15E-19	20		Protein kinase CK2 alpha prime. Catalytic subunit of CK2 holoenzyme	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CSNK2A2&keywords=Csnk2a2
Pde1a	0.9491691	1.06E-05	0.022609	20	YES	Calcium/calmodulin-dependent 3',5'-cyclic nucleotide phosphodiesterase 1A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PDE1A&keywords=Pde1a
Cpne4	0.815418	2.35E-05	0.039975	19	YES	Calcium-dependent membrane-binding proteins may regulate molecular events at the interface of the c	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CPNE4&keywords=Cpne4
Gm45640	0.7899246	0.00013	0.09839	20		Unknown	
Ncald	0.7531203	3.29E-05	0.050717	5	YES	Neuronal calcium-binding protein that belongs to the neuronal calcium sensor (NCS) family of proteins.	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NCALD&keywords=Ncald
Basp1	0.5603242	5.57E-05	0.073668	19	YES	Brain Abundant Membrane Attached Signal Protein 1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BASP1&keywords=Basp1
Pgm2l1	0.5560045	2.08E-05	0.038578	5		PGM2L1 (Phosphoglucomutase 2 Like 1) is a Protein Coding gene. Among its related pathways are Me	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PGM2L1&keywords=Pgm2l1
Erc1	0.3992864	1.02E-05	0.022609	5	YES	RIM-binding protein. RIMs are active zone proteins that regulate neurotransmitter release.	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ERC1&keywords=Erc1
Ctsd	-0.4584743	9.26E-06	0.022609	19		CTSD gene provides instructions for making an enzyme called cathepsin D.	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CTSD&keywords=Ctsd
Npc2	-0.4653114	4.68E-05	0.068443	5		NPC Intracellular Cholesterol Transporter 2, transports cholesterol through the late endosomal/lysosom	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NPC2&keywords=Npc2
Elovl7	-0.7269098	0.000135	0.09839	20		Fatty Acid Elongase 7. Among its related pathways are Fatty Acyl-CoA Biosynthesis and Metabolism	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ELOVL7&keywords=Elovl7
Tcn2	-0.7635684	6.45E-05	0.077457	19		Transcobalamin II (TC II), a plasma globulin that acts as the primary transport protein for vitamin B12	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TCN2&keywords=Tcn2
Rtraf-ps	-0.8885925	0.000132	0.09839	20		RNA transcription, translation and transport factor, pseudogene	
BC067074	-0.9301093	1.78E-06	0.00706	20		Unknown	
Lyz2	-1.0403831	5.40E-05	0.073668	20		antibacterial enzyme lysozyme M (LysM)	https://www.genecards.org/cgi-bin/carddisp.pl?gene=LYZ2&keywords=Lyz2
Klf4	-1.136359	7.75E-05	0.081402	20		Kruppel-like factor 4 is a member of the KLF family of zinc finger transcription factors, which belongs to	https://www.genecards.org/cgi-bin/carddisp.pl?gene=KLF4&keywords=Klf4
Slc18a3	-1.1761844	1.89E-05	0.037482	20	YES	Solute Carrier Family 18 (Vesicular Acetylcholine Transporter), Member 3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SLC18A3&keywords=Slc18a3
Gm2991	-1.6784161	0.00012	0.09839	20		Unknown	
Gm42047	-2.5858568	6.38E-06	0.019685	20		lncRNA	
Tmem88	-3.1280924	8.20E-05	0.081402	9	YES	Transmembrane protein 88 Inhibits the Wnt/beta-catenin signaling pathway	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TMEM88&keywords=Tmem88
4933406B17Rik	-3.7325491	9.85E-11	9.26E-07	20		Long non coding RNA associated with Csnk2a2 promoter regulation	http://useast.ensembl.org/Mus_musculus/Gene/Summary?db=core;g=ENSMUSG00000110427;r=8-95496430-9
Ttr	-6.9107612	9.50E-05	0.085158	13		Transhyretin. This protein transports vitamin A (retinol) and a hormone called thyroxine throughout the	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TTR&keywords=Ttr

