

Supplementary Table 1. The 79 CNV pairs with alternative relationship regarding the expression of 69 target genes in eQTL dataset. The first and second columns show the Ensembl gene id and gene name of each target gene. The third, fourth, and fifth columns represent the coordinate of the first CNV of the alternative CNV pair, the Ensembl gene id and gene name of the overlapping gene for this CNV. The sixth, seventh, and eighth columns represent the coordinate of the second CNV of the alternative CNV pair, the Ensembl gene id and gene name of the overlapping gene for this CNV. The ninth column is the correlation coefficient between model weights of the CNV pairs among the 100 models. The last column shows the correlation coefficient between the genotypes of the CNV pair in the eQTL dataset.

Target Gene	TargetGeneName	Gene-1 CNV-1	Gene-1 me-1	GeneNa CNV-2	Gene-2	GeneName-2	Correlation of model weights of CNV-1 and CNV-2	Correlation of genotypes of CNV-1 and CNV-2
ENSG000000419	DPM1	chr20:46535412-46536783		chr20:47977143-47977222			-0.628	-0.046
ENSG0000053438	NNAT	chr20:5577119-5578365		chr20:57156840-57157173			-0.588	-0.109
ENSG0000062598	ELMO2	chr20:2307904-2308608		chr20:47977143-47977222			-0.603	-0.179
ENSG0000064787	BCAS1	chr20:14425294-14426955		chr20:23169078-23169133			-0.5	0.047
ENSG0000064787	BCAS1	chr20:14425294-14426955		chr20:57219300-57219515			-0.573	-0.092
ENSG0000078814	MYH7B	chr20:42760727-42762937		chr20:43792820-43792931			-0.736	0.212
ENSG0000078872	NFS1	chr20:57156840-57157173		chr20:59407562-59407882	ENSG0000079242	CDH4	-0.514	0.047
ENSG0000080839	RBL1	chr20:23169078-23169133		chr20:47977143-47977222			-0.572	0.025
ENSG0000080845	DLGAP4	chr20:55038894-55039158		chr20:57156840-57157173			-0.565	0.027
ENSG0000087495	PHACTR3	chr20:40340323-40340374		chr20:5482546-5482921	ENSG0000025772	GPCPD1	-0.51	0.048
ENSG0000088367	EPB41L1	chr20:30989312-30990430		chr20:40340323-40340374			-0.522	-0.116
ENSG0000088888	MAVS	chr20:36572671-36572983		chr20:40340323-40340374			-0.619	0.066
ENSG0000088888	MAVS	chr20:36572671-36572983		chr20:9097570-9097622	ENSG00000101333	PLCB4	-0.545	-0.114
ENSG0000088888	MAVS	chr20:60004020-60004338	ENSG000000699	chr20:9097570-9097622	ENSG00000101333	PLCB4	-0.615	0.296

ENSG0 00001 00979	PLTP	chr20:149 28975- 14929305		chr20:600 04020- 60004338	ENSG0 00001 30699	TAF4	-0.654	0.079	
ENSG0 00001 01019	UQCC	chr20:403 40323- 40340374		chr20:542 428- 542481			-0.597	-0.008	
ENSG0 00001 01040	ZMYND8	chr20:125 89936- 12590067		chr20:212 34100- 21236794	ENSG0 00000 88930	XRN2	-0.615	0.377	
ENSG0 00001 01052	IFT52	chr20:439 3322- 4397530		chr20:542 428- 542481			-0.577	0.009	
ENSG0 00001 01057	MYBL2	chr20:365 72671- 36572983		chr20:571 56840- 57157173			-0.544	0.147	
ENSG0 00001 01082	SLA2	chr20:133 7144- 1338814		chr20:600 04020- 60004338	ENSG0 00001 30699	TAF4	-0.566	0.158	
ENSG0 00001 01082	SLA2	chr20:352 49024- 35249335	ENSG0 000011 8705	RPN2	chr20:600 04020- 60004338	ENSG0 00001 30699	TAF4	-0.524	0.079
ENSG0 00001 01265	RASSF2	chr20:231 69078- 23169133		chr20:594 07562- 59407882	ENSG0 00001 79242	CDH4	-0.675	-0.032	
ENSG0 00001 01266	CSNK2A1	chr20:419 14683- 41917196		chr20:427 60727- 42762937			-0.718	0.093	
ENSG0 00001 01290	CDS2	chr20:246 2976- 2463089		chr20:365 72671- 36572983			-0.606	-0.047	
ENSG0 00001 01290	CDS2	chr20:246 2976- 2463089		chr20:600 04020- 60004338	ENSG0 00001 30699	TAF4	-0.541	0.121	
ENSG0 00001 01298	SNPH	chr20:542 428- 542481		chr20:572 19300- 57219515			-0.656	0.181	
ENSG0 00001 01310	SEC23B	chr20:133 7144- 1338814		chr20:548 2546- 5482921	ENSG0 00001 25772	GPCPD 1	-0.526	0.127	
ENSG0 00001 01310	SEC23B	chr20:548 2546- 5482921	ENSG0 000012 5772	GPCPD 1	chr20:594 07562- 59407882	ENSG0 00001 79242	CDH4	-0.551	-0.06
ENSG0 00001 01350	KIF3B	chr20:309 89312- 30990430		chr20:557 7119- 5578365			-0.53	-0.148	
ENSG0 00001 01412	E2F1	chr20:365 72671- 36572983		chr20:374 3029- 3743453			-0.619	0.018	
ENSG0 00001 01443	WFDC2	chr20:437 92820- 43792931		chr20:583 15596- 58315721			-0.576	-0.048	

ENSG0 00001 18705	RPN2	chr20:125 89936- 12590067		chr20:548 2546- 5482921	ENSG0 00001 25772	GPCPD 1	-0.511	0.119	
ENSG0 00001 24151	NCOA3	chr20:365 72671- 36572983		chr20:527 26059- 52726372			-0.533	-0.158	
ENSG0 00001 24155	PIGT	chr20:344 54309- 34454403		chr20:571 56840- 57157173			-0.611	0.038	
ENSG0 00001 24193	SRSF6	chr20:365 72671- 36572983		chr20:583 15596- 58315721			-0.518	-0.305	
ENSG0 00001 24196	GTSF1L	chr20:152 58945- 15268664		chr20:365 72671- 36572983			-0.53	0.118	
ENSG0 00001 24203	ZNF831	chr20:325 79473- 32579805	ENSG0 000012 5971	DYNLR B1	chr20:600 04020- 60004338	ENSG0 00001 30699	TAF4	-0.574	0.075
ENSG0 00001 24203	ZNF831	chr20:327 05522- 32707962	ENSG0 000010 1464	PIGU	chr20:600 04020- 60004338	ENSG0 00001 30699	TAF4	-0.645	-0.174
ENSG0 00001 24243	BCAS4	chr20:125 89936- 12590067		chr20:571 56840- 57157173			-0.597	0.322	
ENSG0 00001 24243	BCAS4	chr20:437 92820- 43792931		chr20:571 56840- 57157173			-0.505	-0.019	
ENSG0 00001 25533	BHLHE23	chr20:133 7144- 1338814		chr20:600 04020- 60004338	ENSG0 00001 30699	TAF4	-0.732	0.158	
ENSG0 00001 25534	PPDPF	chr20:365 72671- 36572983		chr20:374 3029- 3743453			-0.654	0.018	
ENSG0 00001 25779	PANK2	chr20:325 79473- 32579805	ENSG0 000012 5971	DYNLR B1	chr20:527 26059- 52726372			-0.655	0.155
ENSG0 00001 25844	RRBP1	chr20:246 2976- 2463089		chr20:365 72671- 36572983			-0.506	-0.047	
ENSG0 00001 25844	RRBP1	chr20:365 72671- 36572983		chr20:594 07562- 59407882	ENSG0 00001 79242	CDH4	-0.624	0.173	
ENSG0 00001 25966	MMP24	chr20:125 31043- 12531337		chr20:813 5618- 8135800	ENSG0 00001 82621	PLCB1	-0.552	0.484	
ENSG0 00001 25967	NECAB3	chr20:376 9199- 3773144		chr20:389 63826- 38970162			-0.677	0.305	

ENSG0 00001 25971	DYNLRB1	chr20:125 89936- 12590067		chr20:600 04020- 60004338	ENSG0 00001 30699	TAF4	-0.598	0.175	
ENSG0 00001 30699	TAF4	chr20:550 38894- 55039158		chr20:571 56840- 57157173			-0.634	0.027	
ENSG0 00001 30702	LAMA5	chr20:365 72671- 36572983		chr20:611 95144- 61196060			-0.643	0.101	
ENSG0 00001 31067	GGT7	chr20:365 72671- 36572983		chr20:583 60111- 58360431			-0.538	0.185	
ENSG0 00001 31069	ACSS2	chr20:153 83302- 15383476	ENSG0 000017 2264	MACRO D2	chr20:437 92820- 43792931		-0.501	0.213	
ENSG0 00001 32640	BTBD3	chr20:133 7144- 1338814		chr20:309 89144- 30993038			-0.63	0.049	
ENSG0 00001 32792	CTNNBL1	chr20:212 34100- 21236794	ENSG0 000008 8930	XRN2	chr20:542 428- 542481		-0.596	0.033	
ENSG0 00001 32792	CTNNBL1	chr20:437 92820- 43792931		chr20:542 428- 542481			-0.509	-0.114	
ENSG0 00001 32801	ZSWIM3	chr20:583 15596- 58315721		chr20:600 04020- 60004338	ENSG0 00001 30699	TAF4	-0.659	0.15	
ENSG0 00001 49346	SLX4IP	chr20:538 68031- 53874061		chr20:571 56840- 57157173			-0.502	-0.109	
ENSG0 00001 58296	SLC13A3	chr20:152 49732- 15251768	ENSG0 000017 2264	MACRO D2	chr20:718 7158- 7187235		-0.577	-0.111	
ENSG0 00001 68734	PKIG	chr20:427 60727- 42762937		chr20:550 38894- 55039158			-0.504	-0.36	
ENSG0 00001 71700	RGS19	chr20:246 2976- 2463089		chr20:836 2041- 8362456	ENSG0 00001 82621	PLCB1	-0.506	-0.121	
ENSG0 00001 71940	ZNF217	chr20:153 83302- 15383476	ENSG0 000017 2264	MACRO D2	chr20:594 07562- 59407882	ENSG0 00001 79242	CDH4	-0.512	0.042
ENSG0 00001 85513	L3MBTL1	chr20:190 09417- 19009729		chr20:191 18062- 19118377			-0.551	-0.001	
ENSG0 00001 96227	FAM217B	chr20:125 89936- 12590067		chr20:600 04020- 60004338	ENSG0 00001 30699	TAF4	-0.584	0.175	
ENSG0 00001 96476	C20orf96	chr20:734 6708- 7351594		chr20:909 7570- 9097622	ENSG0 00001 01333	PLCB4	-0.654	-0.067	

ENSG0 00001 96775	chr20:542 428- 542481		chr20:836 2041- 8362456	ENSG0 00001 82621	PLCB1	-0.565	-0.21
ENSG0 00001 98053	SIRPA chr20:365 72671- 36572983		chr20:611 95144- 61196060			-0.521	0.101
ENSG0 00001 99024	chr20:246 2976- 2463089		chr20:550 38894- 55039158			-0.581	-0.024
ENSG0 00002 03905	chr20:594 07562- 59407882	ENSG0 000017 9242	CDH4	chr20:813 5618- 8135800	ENSG0 00001 82621	PLCB1	-0.588 0.152
ENSG0 00002 04044	chr20:246 2976- 2463089		chr20:437 92820- 43792931			-0.601	-0.086
ENSG0 00002 07427	SNORA51 chr20:212 34100- 21236794	ENSG0 000008 8930	XRN2	chr20:365 72671- 36572983			-0.517 -0.027
ENSG0 00002 10445	chr20:116 98413- 11698558		chr20:437 92820- 43792931			-0.72	0
ENSG0 00002 12304	SNORD12 chr20:325 79473- 32579805	ENSG0 000012 5971	DYNLR B1	chr20:365 72671- 36572983			-0.648 0.005
ENSG0 00002 12498	SNORD86 chr20:116 98413- 11698558			chr20:374 3029- 3743453			-0.655 -0.051
ENSG0 00002 13603	chr20:542 428- 542481			chr20:557 7119- 5578365			-0.608 0.205
ENSG0 00002 15251	FASTKD5 chr20:153 83302- 15383476	ENSG0 000017 2264	MACRO D2	chr20:327 05522- 32707962	ENSG0 00001 01464	PIGU	-0.529 -0.169
ENSG0 00002 16164	chr20:403 40323- 40340374			chr20:583 15596- 58315721			-0.542 -0.114
ENSG0 00002 16852	chr20:544 50469- 54452021			chr20:611 95144- 61196060			-0.54 0.137
ENSG0 00002 18176	chr20:325 79473- 32579805	ENSG0 000012 5971	DYNLR B1	chr20:414 58009- 41459206			-0.564 0.101
ENSG0 00002 18548	chr20:149 28975- 14929305			chr20:212 34100- 21236794	ENSG0 00000 88930	XRN2	-0.713 0.361