

Table S2. List of 54 gene regions, primers and source used in study.

	NCBI official symbol	Gene name alias used in this study	NCBI Official Full Name	NCBI GeneID	Product size (estimated)	Forward primer sequence	Reverse primer sequence	Reference
1	ABCA1	ABCA1	ATP-binding cassette, sub-family A (ABC1), member 1	19	638	CCTCCATCTTTTCAGCTCTACTAC	ACAAGAGCTGGAGATTGGATAAC	Horvath et al., 2008
2	ADORA3	ADORA3	adenosine A3 receptor	140	324	ACCCCATGTTTGGCTGGAA	GATAGGGTTCATCATGGAGTT	Murphy et al., Nature, 2001
3	AFF2	AFF2	AF4/FMR2 family, member 2	2334	516	GCAGATTTCACATGATTGTGC	CAGTCAGGAGGCCCTTAAAA	this study
4	AFF2	AFF2.2	AF4/FMR2 family, member 2	2334	591	CCAGAACACGGTTGGAAACT	TGAACTGAAAGGCCACTGTCT	this study
5	APP	APP	amyloid beta (A4) precursor prote	351	689	TCCAAGATGCAGCAGAAGC	CTAATGTGTGCACATAAAACAGG	Murphy et al., Nature, 2001
6	ATXN7	ATXN7	ataxin 7	6314	554	TGATCTGCCAGGACCTTTGT	TTGGCCAGATCACTCAAATG	this study
7	AXIN1	AXIN1	axin 1	8312	995	CTCTGCCTTCGTGTACCGTCTAC	GACCCACCTTCTTAATCCTGTCTC	Horvath et al., 2008
8	BCH	BCH	butyrylcholinesterase	590	997	TCAGAGATCTGGAAACCCAAA	ATGCATCACTCCCATCCATT	Janecka et al., 2007
9	BCOR	BCOR	BCL6 corepressor	54880	788	AATCTCACTTCCGGAGAGCA	CCTTGCTACTCAGCAGTCC	this study
10	BDNF	BDNF	brain-derived neurotrophic factor	627	570	CATCTTTTCTTACTATGGTT	TTCCAGTGCCTTTTGTCTATG	Murphy et al., Nature, 2001
11	BRCA2	BRCA2	breast cancer 2, early onset	675	1263	AGCTCTTTTGGGACAATCTGAGGA	CTGTAATTTCTGCCTTTTGTCTAGG	this study
12	CFTR	CFTR	cystic fibrosis transmembrane conductance regulator (ATP-binding cassette sub-family C, member 7)	1080	815	CTCTGTGAACACAGATAGAAGC	TTACTCCAGGAGGCTCAAAAGCC	Horvath et al., 2008
13	CHRNA1	CHRNA1	cholinergic receptor, nicotinic, alpha 1 (muscle)	1134	401	GACCATGAAGTCAGACAGGAG	GGAGTATGTGTCCATCACCAT	Lyons et al., 1997
14	CNR1	CNR1	cannabinoid receptor 1 (brain)	1268	993	CCAAATAGGTTACTTCCCACA	CATAGATGATGGGTTTCCAGC	Murphy et al., Nature, 2001
15	CREM	CREM	cAMP responsive element modulator	1390	460	AGGAACTCAAGGCCCTCAAA	GGGAGGACAAATGTCTTCAA	Murphy et al., Nature, 2001
16	DACH1	DACH1	dachshund homolog 1 (Drosophila)	1602	643	TAGCCAGCCACTGTGAGAGA	TGACTGATTACTGTCTCGGG	this study
17	DCTN2	DCTN2	dynactin 2 (p50)	10540	620	TGGCTCTGGCTGTGACTCA	GAAAACCTGGCCACAGTTGA	this study
18	DENND5A	RAB6IP1	DENN/MADD domain containing 5A	23258	751	CCAGAGTTATCATGGCCAAATC	TACCAAGCAAGAAGCTGGG	this study
19	DMRT1	DMRT1	doublesex and mab-3 related transcription factor 1	1761	563	ATCCCTTGTCTGAGTGCCA	ACATTGCAAGACCCCTGAC	this study
20	ERC2	ERC2	ELKS/RAB6-interacting/CAST family member 2	26059	790	AGTCACTCCTCTCTGGTTTATG	CTCCTTGAGGATCTCCAGCAAC	Horvath et al., 2008
21	FAM123B	FAM123B	family with sequence similarity 123B	138285	746	CATCACTCTGGAAGAGCTGC	TGGATTGAGGATGATTGAGG	this study
22	FBN1	FBN1	fibrillin 1	2200	802	AGACTACTCTAGCTGTGAACCTGG	AAGCACCATTACAAACCTCCA	Janecka et al., 2007
23	FES	FES	feline sarcoma oncogene	2242	401	GGGGAACCTTTGGGGAAGTGT	TCATGACGATGTGATGGG	Venta et al., 1996
24	FOXP1	FOXP1	forkhead box P1	27086	581	TCAGCATCACTAATTTGATGAAC	TGATGCAACTCTCAAGGAAAAG	this study
25	GHR	GHR	growth hormone receptor	2690	761	CCAGTCCAGTCCAAAGAT	TGATTTCTTGGTCAAGGCA	Venta et al., 1996
26	KCNMA1	KCNMA1	potassium large conductance calcium-activated channel, subfamily M, alpha member 1	3778	649	AAGTGGGAAGGCTCTCTCAA	CTCTGCCTAATGCCAGAA	this study
27	KDM5C	SMCX	lysine (K)-specific demethylase 5C	8242	340	GGAGGAGCTGAGACAGCTAGA	TGTACAACCCAGCTCCTTC	this study
28	KDM5D	SMCY	lysine (K)-specific demethylase 5D	8284	700	TGGAAGCCATAATTCGTGAG	CCCAGCAGCTCTGTGTCA	this study
29	LRPPRC	LRPPRC-169	leucine-rich PPR-motif containing	10128	916	CTGGAGACAGCTTTTGTGTTATCC	ACCTTAGAGGCTGAAAGTGACTG	Horvath et al., 2008
30	LRPPRC	LRPPRC-171	leucine-rich PPR-motif containing	10128	818	GACACAGGAGCTTACACAAACAC	GATGCCAGAGCTCTCTACAG	Horvath et al., 2008
31	LUC7L	LUC7L	LUC7-like (S. cerevisiae)	55692	728	CAGCAATTCGAGAGGCTACTTTG	GCAGATGGTACAGTATGTGTTGG	Horvath et al., 2008
32	MAPKAP1	MAPKAP1	mitogen-activated protein kinase associated protein 1	79109	670	TGTCAAGTCCATCGCTTATAACT	GGGCTGAATGATGTGATT	this study
33	MBD5	MBD5	methyl-CpG binding domain protein 5	55777	558	GGCAGATAGCTACCACCACC	CTTCCAGGCAAGGTTTCAATC	this study
34	NEGR1	NEGR1	neuronal growth regulator 1	257194	560	CATTATGTGGTTGGCAGCAT	TTGCAAGATGACAAACTATGTGTT	this study
35	NPAS3	NPAS3	neuronal PAS domain protein 3	64067	607	TCATAAAGCAACAGCCTGC	TGTCAGAATCAGCTGAGACA	this study
36	NPAS3	NPAS3.2	neuronal PAS domain protein 3	64067	674	TCAGCATTTGATCTGCTTTT	TGGAATATCTAACCATCTCTGAACA	this study
37	PLCB4	PLCB4	phospholipase C, beta 4	5332	383	GTGAAATGGAAAGCCGAGAT	CACCAAGCTCATTTACTGTGA	Murphy et al., Nature, 2001
38	PNO	PNO	prepronociceptin	5368	343	GCATCTTGTGATGTGAAGAGAA	TGCCTATAAACTCACTGAACC	Murphy et al., Nature, 2001
39	POLA1	POLA1	polymerase (DNA directed), alpha 1, catalytic subunit	5422	644	TGACAGTTGACAGACAAAGCAA	TGCCATCAGTTTGTGAAAG	this study
40	RAG1	RAG1	recombination activating gene 1	5896	1024	GCTTTGATGGACATGGAAGAAGACAT	GAGCCATCCCTCTCAATAATTTGAGG	Teeling et al., 2000
41	RAG2	RAG2	recombination activating gene 2	5897	444	GATTCCTGCTACTYCTCTCTCT	CCCATGTTGCTTCCAAACCATA	Teeling et al., 2000
42	RPGRI1	RPGRI1	retinitis pigmentosa GTPase regulator interacting protein 1	57096	712	AGATGTTGCTTATGGCACC	ACCTGGGCTTTCTTCTGTTT	this study
43	S1PR1	EDG1	sphingosine-1-phosphate receptor 1	1901	978	GGTCCGGATTCACACTACA	GACGTTTCCAGAGACATAATGG	Murphy et al., Nature, 2001
44	SGMS1	SGMS1	sphingomyelin synthase 1	259230	614	TCAGAATCAAAACCCATTCAG	GTGGTGGTACAGGCCATTTTC	this study
45	SIM1	SIM1	single-minded homolog 1 (Drosophila)	6492	667	GAGCTACCCAGAAAATTCG	CTGGGGCTCATTCATTC	this study
46	SRY	SRY	sex determining region Y	6736	500	CAGAGTGAAGCCACCATGAACGC	AGGTTCTTTGAGCAATGTTACCC	Whitfield et al., 1993 (SW3), Moreira, 2002
47	TEX2	TEX2	testis expressed 2	55852	171	TCCTCTTTTCTCGGCCAGT	AAGGCTCAGACTGATAAGGAGA	Janecka et al., 2007
48	TTR	TTR	transthyretin	7276	935	TGCTCTGGCTGGACTGTGATT	GACAGCATCAGAACCTTGACCAT	Flynn and Nedbal, 1998
49	TYR	TYR	tyrosinase (oculocutaneous albinism IA)	7299	469	TGTGGCCAGCTTTCAGGCAG	CTTCATGGGCAAAATCAATGT	Murphy et al., Nature, 2001
50	USH2A	USH2A	Usher syndrome 2A (autosomal recessive, mild)	7399	627	GTGGTCAATTGATTTGGAT	CAGCAAGCTGTAATGGCAG	this study
51	UTY	UTY	ubiquitously transcribed tetratricopeptide repeat gene, Y-linked	7404	750	AGGGGCTTCATAAAAGTCAGAGT	TTCTGTTGAAGTGGGGGATA	this study
52	ZFX	ZFX	zinc finger protein, X-linked	7543	800	TGGAATGAAATCCCTCAAATA	ATGTCCATCAGGGCAATAAT	this study
53	ZFY	ZFY	zinc finger protein, Y-linked	7544	850	GGAAAAAGAAATAAAATCCTCTGG	ATGAGGAAAGTCTTGTCTGTG	this study
54	ZIC3	ZIC3	Zic family member 3 (odd-paired homolog, Drosophila)	7547	561	ACCCGCTATAGCTTCTGCAA	ATAACAGGACTTTGGCACGG	this study