

Gene	Chromosome	Start	End	# SNPs	p-value
VPS45	1	150039341	150117505	268	8.36×10^{-7}
PLEKHO1	1	150121766	150131825	149	7.00×10^{-7}
TRANK1	3	36868307	36986548	395	4.71×10^{-8}
NT5DC2	3	52558384	52569093	144	1.79×10^{-6}
SMIM4	3	52570620	52574586	136	1.26×10^{-6}
PBRM1	3	52579367	52719866	329	5.14×10^{-7}
GNL3	3	52719935	52728510	148	3.65×10^{-7}
SNORD19	3	52723255	52723331	138	3.55×10^{-7}
SNORD19B	3	52724753	52724846	137	3.52×10^{-7}
SNORD69	3	52726751	52726828	132	3.45×10^{-7}
GLT8D1	3	52728503	52740048	147	3.48×10^{-7}
SPCS1	3	52739856	52742197	133	3.67×10^{-7}
NEK4	3	52744795	52804965	213	1.63×10^{-7}
ITIH1	3	52811601	52826084	177	2.34×10^{-8}
ITIH3	3	52828783	52843025	177	1.06×10^{-8}
ITIH4	3	52847005	52864717	194	1.05×10^{-8}
MUSTN1	3	52863875	52869318	191	1.96×10^{-8}
TMEM110-MUSTN1	3	52867130	52931597	278	3.84×10^{-8}
TMEM110	3	52870771	52931597	273	4.36×10^{-8}
SFMBT1	3	52937582	53080089	467	1.09×10^{-6}
CD47	3	107761940	107809935	251	1.07×10^{-6}
SSBP2	5	80713178	81047072	696	2.53×10^{-7}
FAM196B	5	169290718	169407744	484	8.00×10^{-8}
TFAP2B	6	50786438	50815326	275	3.18×10^{-7}
RPS6KA2	6	166822853	167275771	1486	1.87×10^{-6}
MRPS33	7	140705960	140714781	189	5.41×10^{-7}
LOC100505933	10	111705316	111768139	190	5.81×10^{-7}
ADD3	10	111756107	111895323	226	1.70×10^{-7}
MYRF	11	61520120	61555989	197	3.50×10^{-8}
DKFZP434K028	11	61521500	61525136	154	1.18×10^{-6}
TMEM258	11	61556601	61560085	146	3.62×10^{-8}
MIR611	11	61559966	61560033	137	4.43×10^{-8}
FEN1	11	61560108	61564714	149	3.81×10^{-8}
FADS1	11	61567096	61584529	200	3.60×10^{-8}
MIR1908	11	61582632	61582712	165	1.25×10^{-7}
FADS2	11	61583727	61634825	260	5.96×10^{-7}
FADS3	11	61640997	61659006	266	9.88×10^{-7}
MARK2	11	63606399	63678492	232	1.86×10^{-6}
GAL3ST3	11	65808235	65816651	174	1.70×10^{-6}
SF3B2	11	65819815	65836382	179	1.16×10^{-6}
PACS1	11	65837823	66012218	364	9.46×10^{-7}
CACNA1C	12	2162415	2807115	1355	2.42×10^{-8}
CACNA1C-AS4	12	2329702	2332647	149	1.80×10^{-7}
CACNA1C-IT3	12	2378941	2397911	130	1.98×10^{-8}
KMT2D	12	49412757	49449107	114	3.09×10^{-7}
RHEBL1	12	49458467	49463775	94	4.36×10^{-7}
STARD9	15	42867856	43013196	240	8.45×10^{-7}
EFTUD1P1	15	84748938	84795353	224	1.18×10^{-6}
LOC100505679	15	84841241	84850985	89	6.91×10^{-7}
LOC642423	15	84868829	85748518	1841	2.53×10^{-7}
DNM1P41	15	85045805	85050249	85	1.29×10^{-6}
GOLGA6L5	15	85047737	85060078	108	3.58×10^{-7}
UBE2Q2P1	15	85070426	85114026	195	1.23×10^{-7}
LINC00933	15	85113879	85123412	198	8.60×10^{-8}
ZSCAN2	15	85144248	85166947	221	7.00×10^{-8}
SCAND2P	15	85174690	85185694	181	3.27×10^{-7}
WDR73	15	85186011	85197524	190	4.94×10^{-7}
NMB	15	85198359	85201802	178	7.04×10^{-7}
SEC11A	15	85212767	85259691	257	6.69×10^{-7}
ZNF592	15	85291817	85349663	283	5.63×10^{-7}
ALPK3	15	85359910	85416713	401	6.28×10^{-7}
TERF2	16	69389463	69419891	192	1.93×10^{-6}
LRRRC3C	17	38097726	38100987	273	1.85×10^{-6}
GSDMA	17	38119225	38134019	346	1.97×10^{-6}
HLF	17	53342320	53402426	291	2.05×10^{-6}
SLC44A2	19	10713120	10755235	294	5.17×10^{-7}
ILF3-AS1	19	10762537	10764548	139	1.13×10^{-6}
ILF3	19	10764936	10803095	191	1.22×10^{-6}
QTRT1	19	10812111	10824043	121	1.52×10^{-6}
NCAN	19	19322781	19363061	243	5.25×10^{-8}
HAPLN4	19	19366451	19384074	161	1.17×10^{-7}
TM6SF2	19	19375173	19384074	155	1.46×10^{-7}
SUGP1	19	19387321	19431321	223	5.69×10^{-7}
GATAD2A	19	19496641	19619741	293	8.15×10^{-7}
TSSK6	19	19625027	19626469	134	3.36×10^{-7}
YJEFN3	19	19627018	19648393	153	3.21×10^{-7}
CILP2	19	19649073	19657468	137	2.50×10^{-7}
PBX4	19	19672515	19729725	191	5.12×10^{-8}
LPAR2	19	19734465	19739739	110	5.92×10^{-7}
GMIP	19	19740284	19754455	144	6.77×10^{-7}
STK4	20	43595119	43708593	369	2.33×10^{-7}
KCNS1	20	43720949	43729753	203	4.36×10^{-9}
WFDC5	20	43738092	43743813	203	4.43×10^{-8}
WFDC12	20	43752066	43753106	199	6.67×10^{-7}
XPNPEP3	22	41253084	41363888	120	9.20×10^{-7}
DNAJB7	22	41255553	41258130	49	7.97×10^{-7}

Table 2: **Resulting associated genes using PASCAL.** These are the significant genes for BD with a p-value lower than the Bonferroni correction ($p\text{-value} < 2.26 \times 10^{-6}$) sorted by chromosome. The genes in bold are the novel genes found with PASCAL.