Supplementary Table 2 A list of 113 candidates identified by the Bayesian predictor. This table includes all candidates in diseases where at least one candidate scores above 0.2. Diseases are sorted by probability value of best scoring hit. In diseases where more than one candidate is scored above 0.1, all hits are shown in consecutive rows in the table sorted by score. For all candidates we made literature studies to investigate the status of research in the disorder and interval. Genes annotated with "1" have to our knowledge not been associated with the disease, genes annotated with "2" have been associated with the disease, but there has not been identified a disease causing mutation. Genes annotated with "3" are genes in which mutations in the reported gene are known to cause the phenotype, but where this is not annotated in the MIM file reporting the linkage interval. Genes annotated with "#" indicates that evidence points to another gene in the same interval and same disease. Genes annotated with "*" are genes lying >=20Mb from the closest high-resolution marker published.

Disease (MIM number)	**Gene** (HUGO/Ensembl Acc)	**Literature annotation**	**Probability value**	**Cyto-genetic band**
Pancreatic endocrine tumor 602011	VHL ENSG00000134086	2	1.0000	3p25.3
Malaria, susceptibility to 609148	TNF ENSG00000111956	2	1.0000	6p21.33
Myeloproliferative disorder / non Hodgkin lymphoma 602221	FGF9 ENSG00000102678	1#	1.0000	13q12.11
Cataract, nonnuclear polymorphic, congenital 601286	CRYGC ENSG00000163254	3	1.0000	2q33.3
Immunoglobulin E concentration, serum 147061	IL9 ENSG00000145839	2	0.9998	5q31.1
Diabetes mellitus, iddm2 125852	INS ENSG00000129965	2	0.9998	11p15.5
Type 2 diabetes 601407	PRKAB1 ENSG00000111725	2	0.9998	12q24.23
Muscular dystrophy 158900	CASP3 ENSG00000164305	1	0.9996	4q35.1
Polydactyly, type a2 602085	ZIC2 ENSG00000043355	1	0.9995	13q32.3
Inflammatory bowel disease 3 604519	RIPK1 ENSG00000137275	1*	0.9984	6p25.2
Ovarian cancer, epithelial 607893	FANCD2 ENSG00000144554	1	0.9981	3p25.3
Diabetes mellitus, NIDDM3 603694	YWHAB ENSG00000166913	1	0.9867	20q13.12
Breast cancer	H2AFX	1#	0.9852	11q23.3

600048	ENSG00000188486			
Breast cancer, ductal 211410	BRCA2 ENSG00000139618	3	0.9655	13q13.1
Mental health wellness 2 603664	INPP4B ENSG00000109452	1	0.9330	4q31.21
Glucocorticoid deficiency 2 607398	CRH ENSG00000147571	3	0.9304	8q13.1
Charcot-Marie-Tooth disease 606482	ACP5 ENSG00000102575	1#	0.9244	19p13.2
Muscular dystrophy, limb-girdle, type 1d 603511	FLNC ENSG00000128591	3*	0.9029	7q32.1
Prostate adenocarcinoma 601188	MAPK8 ENSG00000107643	2	0.9027	10q11.22
Graves' Disease 603388	L3MBTL ENSG00000185513	1	0.8906	20q13.11
Deafness, sensorineural 49 608372	CGN ENSG00000143375	1	0.8883	1q21.3
Acute myelogenous leukemia 602439	CBFB ENSG00000067955	3	0.8835	16q22.1
Schizophrenia 8 603206	GNAL ENSG00000141404	2	0.8798	18p11.21
Schizophrenia 8 603206	DLGAP1 ENSG00000170579	1#	0.1129	18p11.31
Myasthenia gravis with thymus hyperplasia 607085	HLA-DRA ENSG00000198334	2	0.8783	6p21.32
Mental retardation, x-linked 84 300505	HADH2 ENSG00000072506	1	0.8660	Xp11.22
Spinal muscular atrophy 607088	PC ENSG00000173599	1#	0.8265	11q13.2
Polycystic kidney disease 600273	PKD1 ENSG00000008710	3	0.8178	16p13.3
Systemic lupus erythematosus with hemolytic anemia, 1 607279	ME3 ENSG00000151376	1	0.8149	11q14.2
Alzheimer disease 602096	CNTN1 ENSG00000018236	1	0.7779	12q12
Diabetes mellitus, insulin-dependent, 4 600319	ACY3 ENSG00000132744	1#	0.7318	11q13.2
Eosinophilia, familial 131400	IL9 ENSG00000145839	2*	0.6863	5q31.1
Eosinophilia, familial 131400	IL12B ENSG00000113302	1#	0.2334	5q33.3

Wrinkly skin syndrome 278250	PMS1 ENSG00000064933	1	0.6782	2q32.2
Retinitis pigmentosa 602594	RBBP6 ENSG00000122257	1	0.6539	16p12.1
Cardiomyopathy 6 604401	MCM10 ENSG00000065328	1	0.6449	10p13
Cardiomyopathy 6 604401	RAB18 ENSG00000099246	1	0.1648	10p12.1
Alzheimer disease 8 607116	JAG1 ENSG00000101384	1#	0.6440	20p12.2
Alzheimer disease 8 607116	PRNP ENSG00000171867	2	0.3560	20p13
Spastic paraplegia 11, autosomal recessive 604360	DLL4 ENSG00000128917	1	0.6376	15q15.1
deafness, autosomal recessive 15 601869	ACPP ENSG00000014257	1	0.6305	3q22.1
Schizophrenia 7 603176	RAP2A ENSG00000125249	1	0.6146	13q32.1
Major depressive disorder 2 608691	CIB1 ENSG00000185043	1	0.5973	15q26.1
Carney complex 605244	MSH6 ENSG00000116062	1	0.5882	2p16.3
Breast cancer 113721	YWHAE ENSG00000108953	1	0.5632	17p13.3
Breast cancer 113721	RPA1 ENSG00000132383	1	0.1089	17p13.3
Diabetes mellitus, insulin-dependent, 18 605598	CAMK2A ENSG00000070808	1	0.5579	5q32
Asthma, susceptibility to 600807	IL9 ENSG00000145839	2	0.5460	5q31.1
Asthma, susceptibility to 600807	IL12B ENSG00000113302	2	0.4539	5q33.3
Hypoparathyroidism 307700	FMR1 ENSG00000102081	1	0.5391	Xq27.3
Ichthyosis 606545	ACADVL ENSG00000072778	1	0.5358	17p13.1
Peripheral arterial occlusive disease 1 606787	CYP2J2 ENSG00000134716	1	0.5316	1p32.1
Retinitis Pigmentosa 606068	LOC130951 ENSG00000159374	1	0.5232	2p13.1
Mesothelioma, malignant 156240	ADFP ENSG00000147872	1	0.5212	9p22.1
Mesothelioma, malignant 156240	MPDZ ENSG00000107186	1	0.1169	9p23
Myeloproliferative disorder	FGF23 ENSG00000118972	2	0.4964	12p13.32

131440				
Myeloproliferative disorder 131440	FGF6 ENSG00000111241	2	0.4964	12p13.32
Cataract, autosomal recessive, early-onset, pulverulent 605749	KLF9 ENSG00000119138	1	0.4924	9q21.11
Atrial fibrillation, familial, 2 608583	SPFH1 ENSG00000095480	1*	0.4833	10q24.2
Gliosis, familial progressive subcortical 221820	GFAP ENSG00000131095	2	0.4671	17q21.31
Cardiomyopathy, dilated, 1c 601493	MYOZ1 ENSG00000177791	1	0.4383	10q22.2
cardiomyopathy, dilated, 1c 601493	CAMK2G ENSG00000148660	1	0.2904	10q22.2
Loss of heterozygosity, 18, chromosomal region 1 603045	SERPINB2 ENSG00000197632	1	0.4371	18q21.33
Amyotrophic Sclerosis 105550	BICD2 ENSG00000185963	1	0.4351	9q22.31
Amyotrophic Sclerosis 105550	IARS ENSG00000196305	1	0.2154	9q22.31
Nephronophthisis-4 607215	TARDBP ENSG00000120948	1#	0.4265	1p36.22
Charcot-Marie-Tooth disease 608591	ITGB7 ENSG00000139626	1	0.4249	12q13.13
Spastic Paraplegia 604805	LENG8 ENSG00000167615	1	0.4090	19q13.42
Small cell cancer of the lung 182280	RAD54L2 ENSG00000164080	1	0.4088	3p21.2
Myoclonic epilepsy, juvenile, 3 608816	HLA-DRA ENSG00000198334	1	0.3968	6p21.32
Dystonia 314250	RPS4X ENSG00000198034	1#	0.3953	Xq13.1
Dystonia 314250	DLG3 ENSG00000082458	1#	0.1695	Xq13.1
Dystonia 314250	EDA ENSG00000158813	1#	0.1662	Xq13.1
Neuropathy, hereditary sensory, type I 608088	STT3B ENSG00000163527	1	0.3817	3p24.1
Deafness, nonsyndromic sensorineural 7 601412	CGN ENSG00000143375	1	0.3717	1q21.3

Amyotrophic Lateral Sclerosis 6 608030	GNAO1 ENSG00000087258	1	0.3708	16q12.2
Amyotrophic Lateral Sclerosis 6 608030	AMFR ENSG00000159461	1	0.3657	16q12.2
Hydrolethalus syndrome 236680	SC5DL ENSG00000109929	1	0.3708	11q23.3
Fibrodysplasia ossificans progressiva 135100	FGF2 ENSG00000138685	2#*	0.3651	4q27
Atherosclerosis susceptibility 108725	LDLR ENSG00000130164	2	0.3630	19p13.2
Atherosclerosis susceptibility 108725	PPAP2C ENSG00000141934	1	0.3427	19p13.3
Klippel-feil malformation 214300	ITGA2 ENSG00000164171	1	0.3546	5q11.2
Blood group, Froese 601551	ARL4D ENSG00000175906	1#	0.3406	17q21.31
Fibrosis of muscles 3A 607034	DNM1L ENSG00000087470	1	0.3360	12p11.21
Testicular tumors, testicular germ cell tumor included 273300	UBE2N ENSG00000177889	1	0.3193	12q22
Melanoma, uveal, susceptibility to, 2 606661	RAF1 ENSG00000132155	2	0.3188	3p25.2
Spinocerebellar ataxia 19 607346	APH1A ENSG00000117362	1	0.3128	1q21.2
Immunoneurologic disorder, x-linked 300076	F9 ENSG00000101981	1	0.3073	Xq27.1
Paroxysmal kinesigenic choreoathetosis, familial 128200	STX4A ENSG00000103496	1	0.3022	16p11.2
Paroxysmal kinesigenic choreoathetosis, familial 128200	DOC2A ENSG00000149927	1	0.1210	16p11.2
Paget disease of bone 4 606263	PURA ENSG00000185129	1	0.2999	5q31.2
Wilms tumor 4 601363	MRPL27 ENSG00000108826	1	0.2956	17q21.33
Wilms tumor 4 601363	HOXB1 ENSG00000120094	1	0.1744	17q21.32

Mental retardation, x-linked 20 300047	EDA ENSG00000158813	1	0.2939	Xq13.1
Mental retardation, x-linked, syndromic 11 300238	FGF13 ENSG00000129682	2	0.2917	Xq26.3
Muscular dystrophy, limb-girdle, type 1f 608423	FLNC ENSG00000128591	2	0.2902	7q32.1
Split-hand/foot malformation 2 313350	ZIC3 ENSG00000156925	1	0.2867	Xq26.3
Lynch cancer family syndrome II 114400	CABLES1 ENSG00000134508	2	0.2736	18q11.2
Convulsions, benign infantile 601764	LENG8 ENSG00000167615	1*	0.2676	19q13.42
Wegener granulomatosis 608710	HLA-DRA ENSG00000198334	1	0.2648	6p21.32
Preeclampsia 189800	LOXL3 ENSG00000115318	1	0.2614	2p13.1
Deafness, X-linked 4 300030	DMD ENSG00000198947	2	0.2388	Xp21.2
Coronary heart disease, susceptibility to, 1 607339	ENSG00000184207	1	0.2375	16p13.3
Coronary heart disease, susceptibility to, 1 607339	PDPK1 ENSG00000140992	1	0.1632	16p13.3
Cervical carcinoma 191181	PDE2A ENSG00000186635	1#*	0.2368	11q13.4
Cervical carcinoma 191181	FGF4 ENSG00000075388	2#	0.1318	11q13.3
Cervical carcinoma 191181	FGF3 ENSG00000186895	2#	0.1318	11q13.3
Cervical carcinoma 191181	FGF19 ENSG00000162344	1#	0.1318	11q13.3
Diabetes mellitus, noninsulin-dependent, 4 608036	CCNG1 ENSG00000113328	1	0.2316	5q34
Diabetes mellitus, noninsulin-dependent, 4 608036	HK3 ENSG00000160883	1	0.1335	5q35.2
Parkinson disease 3 602404	SLC4A5, DCTN1 ENSG00000188687	1#	0.2284	2p13.1
Parkinson disease 3 602404	HTRA2 ENSG00000115317	3	0.1076	2p13.1
Cataract 605387	MAFB ENSG00000179050	1	0.2001	20q12