

Table S1-1 Databases of Gene expression profile for 10 diseases

Diseases	Accession number	Disease Samples	Health samples
Adrenoleukodystrophy	GSE34308	4	6
Alzheimer Disease	GDS2795	10	10
Denotes Arrhythmogenic right ventricular dysplasia	GSE29819	6	6
Bladder Cancer	GSE31189	40	52
Breast cancer	GDS3952	31	51
Cornelia de Lange syndrome	GSE12408	16	18
Dilated cardiomyopathy	GSE29819	7	6
Ectodermal dysplasia	GSE16524	4	4
Hypercholesterolemia	GSE6054	6	13
Lung cancer	GSE23066	5	5

Table S1-2 Information of 97 known causative genes associated with 10 diseases

Disease family	OMIM ID	Gene Symbol	Gene Loci
Adrenoleukodystrophy	300371	ABCD1	Xq28
	602136	PEX1	7q21.2
	602859	PEX10	1p36.32
	601789	PEX13	2p16.1
	608666	PEX26	22q11.21
Alzheimer Disease	104760	APP	21q21
	107741	APOE	19q13.2
	235200	BMP2	6p21.3
	104311	PSEN1	14q24.3
	600759	PSEN2	1q31-q42
	602710	APBB2	4p14
	235200	HFE	6p21.3
	163729	NOS3	7q36
	191840	PLAU	10q24
	602005	SORL1	11q23.2-q24.2
	103950	A2M	12p13.3-p12.3
	602403	BLMH	17q11.2
	606989	MPO	17q23.1
608254	PAXIP1	7q36	
ARVD	190230	TGFB3	14q24.3
	180902	RYR2	1q43
	125647	DSP	6p24.3
	602861	PKP2	12p11.21
	125671	DSG2	18q12.1
	125645	DSC2	18q12.1
	612048	TMEM43	3p25.1
	173325	JUP	17q21.2
Bladder Cancer	190020	HRAS	11p15.5

	190070	KRAS	12p12.1	
	180200	RB1	13q14.2	
	134934	FGFR3	4p16.3	
	605303	TACC3	4p16.3	
Breast cancer	164730	AKT1	14q32.33	
	313700	AR	Xq12	
	607585	ATM	11q22.3	
	601593	BARD1	2q35	
	113705	BRCA1	17q21.31	
	600185	BRCA2	13q13.1	
	605882	BRIP1	17q23.2	
	600636	CASP3	4q35.1	
	192090	CDH1	16q22.1	
	604373	CHEK2	22q12.1	
	600936	HMMR	5q34	
	190070	KRAS	12p12.1	
	601937	NCOA3	20q13.12	
	160998	NQO2	6p25.2	
	610355	PALB2	16p12.2	
	176705	PHB	17q21.33	
	171834	PIK3CA	3q26.32	
	605100	PPM1D	17q23.2	
	603615	RAD54L	1p34.1	
		606837	RB1CC1	8q11.23
	191170	TP53	17p13.1	
	601387	TSG101	11p15.1	
	600675	XRCC3	14q32.33	
	602967	ZNF217	20q13.2	
Cornelia de Lange syndrome	608667	NIPBL	5p13.2	
	300269	HDAC8	Xq13.1	
	606462	RAD21	8q24.11	
Dilated cardiomyopathy	150330	LMNA	1q22	
	191045	TNNT2	1q32.1	
	600163	SCN5A	3p22.2	
	188840	TTN	2q31.2	
	125660	DES	2q35	
	601411	SGCD	5q33.2-q33.3	
	600824	CSRP3	11p15.1	
	604488	TCAP	17q12	
	601439	ABCC9	12p12.1	
	172405	PLN	6q22.31	
		160760	MYH7	14q11.2
		PSEN1	PSEN1	14q24.2
	600759	PSEN2	1q42.13	

	600958	MYBPC3	11p11.2
	605906	LDB3	10q23.2
	300394	TAZ	Xq28
	300377	DMD	Xp21.2-p21.1
Ectodermal dysplasia	604095	EDAR	2q12.3
	606603	EDARADD	1q42-q43
Hypercholesterolemia	609708	LPL	8p21.3
	606945	LDLR	19p13.2
	107730	APOB	2p24.1
	107670	APOA2	1q23.3
	600564	ITIH4	3p21.1
	600946	GHR	5p13-p12
	132811	EPHX2	8p21.2-p21.1
Lung cancer	600046	ABCA1	9q31.1
	191170	TP53	17p13.1
	190070	KRAS	12p12.1
	164757	BRAF	7q34
	131550	EGFR	7p11.2
	601763	CASP8	2q33.1
	605082	RASSF1	3p21.31
	171834	PIK3CA	3q26.32
	147575	IRF1	5q31.1
	609413	ERCC6	10q11.23
	603113	PPP2R1B	11q23.1
	164870	ERBB2	17q12