

Supplementary Table 6. 28 gene showing less than 5 disease association in all the contrasts presented sheetwise

LLWvsLD

SI NO	Gene	Gene_id	Disease	Disease_id	Type	isease_Cla	mantic_Ty	N_genes_d	N_SNPd	Score_gda	El_gda	N_PMIDs	N_SNPd	First_Ref	Last_Ref
1	CTSO	1519	Breast Carcinoma	C0678222	disease	Neoplasn	Neoplastic	6776	2793	0.05	1	5	0	1994	2017
	CTSO	1519	Malignant neoplasm of breast	C0006142	disease	Neoplasn	Neoplastic	6941	3417	0.04	1	4	0	2013	2017
	CTSO	1519	Neoplasm Metastasis	C0027627	phenotype	Patholog	Neoplastic	6385	327	0.01	1	1	0	2005	2005
	CTSO	1519	Secondary Neoplasm	C2939419	group	Patholog	Neoplastic	2492	85	0.01	1	1	0	2005	2005
2	MIER2	54531	Adenoid Cystic Carcinoma	C0010606	disease	Neoplasn	Neoplastic	325	30	0.3	1	1	0	2006	2006
	MIER2	54531	Salivary Gland Neoplasms	C0036095	group	Neoplasn	Neoplastic	116	3	0.3	1	1	0	2006	2006
	MIER2	54531	Malignant neoplasm of salivary gland	C0220636	disease	Neoplasn	Neoplastic	91	0	0.3	1	1	0	2006	2006
3	MGST2	4258	Psoriasis vulgaris	C0263361	disease	Skin and	Disease or	255	80	0.02	1	2	0	2006	2006
	MGST2	4258	Myeloid Leukemia, Chronic	C0023473	disease	Neoplasn	Neoplastic	1172	115	0.01	1	1	0	2000	2000
	MGST2	4258	Psoriasis	C0033860	disease	Skin and	Disease or	1308	705	0.01	0	1	0	2006	2006
4	NEURL4	84461	Autoimmune Diseases	C0004364	group	Immune	Disease or	1758	428	0.1	1	1	1	2019	2019
	NEURL4	84461	AUTOIMMUNE DISEASE, SUSCEPTIBILITY TO, 6	C3150797	disease		Finding	82	141	0.1	1	1	1	2019	2019
	NEURL4	84461	AUTOIMMUNE DISEASE, MULTISYSTEM, INFANTILE-ONSET, 1	C4014795	disease		Disease or	82	142	0.1	1	1	1	2019	2019
	NEURL4	84461	AUTOIMMUNE DISEASE, MULTISYSTEM, INFANTILE-ONSET, 2	C4310768	disease		Disease or	82	132	0.1	1	1	1	2019	2019
5	SLC25A14	9016	Encephalomyelitis	C0014070	disease	Infection	Disease or	865	7	0.02	1	2	0	2017	2019
	SLC25A14	9016	Multiple Sclerosis	C0026769	disease	Immune	Disease or	1800	1022	0.01	1	1	0	2017	2017
	SLC25A14	9016	Schizophrenia	C0036341	disease	Mental D	Mental or	2872	2897	0.01	1	1	0	2007	2007
	SLC25A14	9016	Embolic stroke	C0262469	disease	Nervous	Disease or	13	2	0.01	1	1	0	2007	2007
	SLC25A14	9016	Brain Infarction	C0751955	disease	Patholog	Disease or	114	11	0.01	1	1	0	2007	2007
6	NIPAL3	57185	Prostatic Neoplasms	C0033578	group	Neoplasn	Neoplastic	1722	31	0.3	1	1	0	2007	2007
	NIPAL3	57185	Malignant neoplasm of prostate	C0376358	disease	Neoplasn	Neoplastic	4502	1082	0.3	1	1	0	2007	2007
7	PYCR3	65263	Red cell distribution width determination	C0427460	phenotype		Laboratory	593	988	0.1	1	1	1	2019	2019
	PYCR3	65263	RDW - Red blood cell distribution width result	C1304746	phenotype		Laboratory	593	988	0.1	1	1	1	2019	2019
8	LPCAT4	254531	Colorectal Carcinoma	C0009402	disease	Digestive	Neoplastic	5473	1962	0.01	1	1	0	2013	2013
	LPCAT4	254531	Malignant neoplasm of colon and/or rectum	C4722085	disease		Neoplastic	3669	502	0.01	1	1	0	2013	2013
9	PNRC2	55629	Renal Cell Carcinoma	C0007134	disease	Neoplasn	Neoplastic	2084	288	0.01	1	1	0	2019	2019
	PNRC2	55629	Conventional (Clear Cell) Renal Cell Carcinoma	C0279702	disease	Neoplasn	Neoplastic	2346	222	0.01	1	1	0	2019	2019
	PNRC2	55629	Carcinogenesis	C0596263	phenotype	Patholog	Neoplastic	6243	355	0.01	1	1	0	2019	2019
	PNRC2	55629	Refractory Cytopenia of Childhood	C2826323	disease		Neoplastic	264	3	0.01	1	1	0	2019	2019
10	SLC35F6	54978	Pancreatic Neoplasm	C0030297	disease	Digestive	Neoplastic	764	20	0.01	1	1	0	2009	2009
	SLC35F6	54978	Pancreatic carcinoma	C0235974	disease	Digestive	Neoplastic	2689	322	0.01	1	1	0	2009	2009
	SLC35F6	54978	Malignant neoplasm of pancreas	C0346647	disease	Digestive	Neoplastic	2667	277	0.01	1	1	0	2009	2009
	SLC35F6	54978	Carcinogenesis	C0596263	phenotype	Patholog	Neoplastic	6243	355	0.01	1	1	0	2009	2009
	SLC35F6	54978	ANOPHTHALMIA AND PULMONARY HYPOPLASIA	C1832661	disease	Congenit	Disease or	1410	80	0.01	1	1	0	2009	2009
11	FAM43A	131583	Liver Cirrhosis, Experimental	C0023893	disease	Patholog	Experimen	870	0	0.3	1	1	0	2014	2014
	FAM43A	131583	Autistic Disorder	C0004352	disease	Mental D	Mental or	1112	395	0.01	1	1	1	2014	2014
12	NCCRP1	342897	Malignant neoplasm of stomach	C0024623	disease	Digestive	Neoplastic	3806	615	0.01	1	1	0	2017	2017
	NCCRP1	342897	Stomach Carcinoma	C0699791	disease	Digestive	Neoplastic	3720	652	0.01	1	1	0	2017	2017
13	CAMK2N2	94032	Allergic asthma	C0155877	disease	Respiratc	Disease or	371	55	0.01	1	1	0	2017	2017
	CAMK2N2	94032	Mood Disorders	C0525045	group	Mental D	Mental or	580	308	0.01	1	1	0	2018	2018
14	NKAIN4	128414	Cardiovascular Diseases	C0007222	group	Cardiova:	Disease or	1756	711	0.1	1	1	1	2011	2011
	NKAIN4	128414	Pseudocholesterase Measurement	C1168443	phenotype		Laboratory	39	568	0.1	1	1	1	2011	2011

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1	DBF4B	80174	Malignant Neoplasms	C0006826	group	Neoplasn	Neoplastic	8621	1641	0.01	1	1	0	2017	2017
	DBF4B	80174	Malignant tumor of colon	C0007102	disease	Digestive	Neoplastic	2969	688	0.01	1	1	0	2017	2017

DBF4B	80174	Carcinogenesis	C0596263	phenotype	Patholog Neoplastic	6243	355	0.01	1	1	0	2017	2017	
DBF4B	80174	Colon Carcinoma	C0699790	disease	Digestive Neoplastic	2832	275	0.01	1	1	0	2017	2017	
DBF4B	80174	Primary malignant neoplasm	C1306459	group	Neoplasn Neoplastic	8221	1374	0.01	1	1	0	2017	2017	
2	LUZP1	7798	Body Height	C0005890	phenotype	Organism /	1903	3972	0.1	1	1	2	2019	2019
	LUZP1	7798	Body mass index	C1305855	phenotype	Clinical Att	1014	2689	0.1	1	1	1	2018	2018
	LUZP1	7798	Electrocardiography	C1623258	phenotype	Diagnostic	8	16	0.1	1	1	1	2018	2018
	LUZP1	7798	Solid Neoplasm	C0280100	phenotype	Neoplasn Neoplastic	1145	24	0.01	1	1	0	2016	2016
	LUZP1	7798	Liver carcinoma	C2239176	disease	Digestive Neoplastic	5725	942	0.01	1	1	0	2016	2016
3	PPIH	10465	Cardiovascular Diseases	C0007222	group	Cardiova: Disease or	1756	711	0.01	1	1	0	2018	2018
	PPIH	10465	Retinitis Pigmentosa	C0035334	disease	Congenit Disease or	546	541	0.01	1	1	0	2019	2019
4	SMIM14	201895	Body Height	C0005890	phenotype	Organism /	1903	3972	0.1	1	1	1	2019	2019
5	SLC37A2	219855	Malignant neoplasm of breast	C0006142	disease	Neoplasn Neoplastic	6941	3417	0.01	1	1	0	2017	2017
	SLC37A2	219855	Cortical Congenital Hyperostosis	C0020497	disease	Congenit Disease or	5	10	0.01	1	1	0	2016	2016
	SLC37A2	219855	Cranio-mandibular osteopathy	C0264082	disease	Musculo: Disease or	3	0	0.01	1	1	0	2016	2016
	SLC37A2	219855	Chronic multifocal osteomyelitis	C0410422	disease	Infection Disease or	34	1	0.01	1	1	0	2016	2016
	SLC37A2	219855	Breast Carcinoma	C0678222	disease	Neoplasn Neoplastic	6776	2793	0.01	1	1	0	2017	2017
6	RABIF	5877	Malignant Neoplasms	C0006826	group	Neoplasn Neoplastic	8621	1641	0.01	1	1	0	2017	2017
	RABIF	5877	Pancreatic carcinoma	C0235974	disease	Digestive Neoplastic	2689	322	0.01	1	1	0	1997	1997
	RABIF	5877	Malignant neoplasm of pancreas	C0346647	disease	Digestive Neoplastic	2667	277	0.01	1	1	0	1997	1997
	RABIF	5877	Primary malignant neoplasm	C1306459	group	Neoplasn Neoplastic	8221	1374	0.01	1	1	0	2017	2017
7	GGA1	26088	Malignant neoplasm of breast	C0006142	disease	Neoplasn Neoplastic	6941	3417	0.3		0	1		
	GGA1	26088	Alzheimer's Disease	C0002395	disease	Nervous Disease or	3397	1843	0.03	0.667	3	0	2006	2014
8	CNTD1	124817	Breast Carcinoma	C0678222	disease	Neoplasn Neoplastic	6776	2793	0.1	1	1	1	2017	2017
9	PLPP7	84814	Non-alcoholic Fatty Liver Disease	C0400966	disease	Digestive Disease or	1058	222	0.1	1	1	1	2019	2019
10	ALDH3B2	222	Alcoholic Intoxication, Chronic	C0001973	disease	Chemical Mental or	577	441	0.31	1	1	0	2013	2013

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1	MIER2	54531	Adenoid Cystic Carcinoma	C0010606	disease	Neoplasn	Neoplastic	325	30	0.3	1	1	0	2006	2006
	MIER2	54531	Salivary Gland Neoplasms	C0036095	group	Neoplasn	Neoplastic	116	3	0.3	1	1	0	2006	2006
	MIER2	54531	Malignant neoplasm of salivary gland	C0220636	disease	Neoplasn	Neoplastic	91	0	0.3	1	1	0	2006	2006
2	NEURL4	84461	Autoimmune Diseases	C0004364	group	Immune	Disease or	1758	428	0.1	1	1	1	2019	2019
	NEURL4	84461	AUTOIMMUNE DISEASE, SUSCEPTIBILITY TO, 6	C3150797	disease	Finding		82	141	0.1	1	1	1	2019	2019
	NEURL4	84461	AUTOIMMUNE DISEASE, MULTISYSTEM, INFANTILE-ONSET, 1	C4014795	disease	Disease or		82	142	0.1	1	1	1	2019	2019
	NEURL4	84461	AUTOIMMUNE DISEASE, MULTISYSTEM, INFANTILE-ONSET, 2	C4310768	disease	Disease or		82	132	0.1	1	1	1	2019	2019
3	VRTN	55237	Colorectal Carcinoma	C0009402	disease	Digestive	Neoplastic	5473	1962	0.3		0	1		
	VRTN	55237	Forced expiratory volume function	C0016529	phenotype	Organ or T		272	1169	0.1	1	1	1	2019	2019
	VRTN	55237	Vital capacity	C0042834	phenotype	Clinical Att		430	746	0.1	1	2	1	2019	2019
4	GDPD2	54857	Malignant neoplasm of breast	C0006142	disease	Neoplasn	Neoplastic	6941	3417	0.01	1	1	0	2017	2017
	GDPD2	54857	Neoplasms	C0027651	group	Neoplasn	Neoplastic	10161	1644	0.01	1	1	0	2017	2017
	GDPD2	54857	Breast Carcinoma	C0678222	disease	Neoplasn	Neoplastic	6776	2793	0.01	1	1	0	2017	2017
5	CTSO	1519	Breast Carcinoma	C0678222	disease	Neoplasn	Neoplastic	6776	2793	0.05	1	5	0	1994	2017
	CTSO	1519	Malignant neoplasm of breast	C0006142	disease	Neoplasn	Neoplastic	6941	3417	0.04	1	4	0	2013	2017
	CTSO	1519	Neoplasm Metastasis	C0027627	phenotype	Patholog	Neoplastic	6385	327	0.01	1	1	0	2005	2005
	CTSO	1519	Secondary Neoplasm	C2939419	group	Patholog	Neoplastic	2492	85	0.01	1	1	0	2005	2005
6	SLC25A14	9016	Encephalomyelitis	C0014070	disease	Infection	Disease or	865	7	0.02	1	2	0	2017	2019
	SLC25A14	9016	Multiple Sclerosis	C0026769	disease	Immune	Disease or	1800	1022	0.01	1	1	0	2017	2017
	SLC25A14	9016	Schizophrenia	C0036341	disease	Mental D	Mental or	2872	2897	0.01	1	1	0	2007	2007
	SLC25A14	9016	Embolic stroke	C0262469	disease	Nervous	Disease or	13	2	0.01	1	1	0	2007	2007

SLC25A14	9016 Brain Infarction	C0751955 disease	Patholog Disease or	114	11	0.01	1	1	0	2007	2007
7 LPCAT4	254531 Colorectal Carcinoma	C0009402 disease	Digestive Neoplastic	5473	1962	0.01	1	1	0	2013	2013
LPCAT4	254531 Malignant neoplasm of colon and/or rectum	C4722085 disease	Neoplastic	3669	502	0.01	1	1	0	2013	2013
8 RLF	6018 Body Height	C0005890 phenotype	Organism /	1903	3972	0.1	1	1	1	2019	2019
RLF	6018 Body mass index	C1305855 phenotype	Clinical Att	1014	2689	0.1	1	1	1	2019	2019
RLF	6018 Congenital Heart Defects	C0018798 group	Congenit Congenital	406	58	0.01	1	1	0	2017	2017
RLF	6018 Myopia	C0027092 disease	Eye Disea Disease or	490	167	0.01	0	1	0	1979	1979
RLF	6018 Small cell carcinoma of lung	C0149925 disease	Neoplasn Neoplastic	972	125	0.01	1	1	0	2012	2012
9 ALDH3B2	222 Alcoholic Intoxication, Chronic	C0001973 disease	Chemical Mental or	577	441	0.31	1	1	0	2013	2013
10 ARF5	381 Hepatitis C	C0019196 disease	Digestive Disease or	1768	347	0.01	1	1	0	2018	2018
11 PNRC2	55629 Renal Cell Carcinoma	C0007134 disease	Neoplasn Neoplastic	2084	288	0.01	1	1	0	2019	2019
PNRC2	55629 Conventional (Clear Cell) Renal Cell Carcinoma	C0279702 disease	Neoplasn Neoplastic	2346	222	0.01	1	1	0	2019	2019
PNRC2	55629 Carcinogenesis	C0596263 phenotype	Patholog Neoplastic	6243	355	0.01	1	1	0	2019	2019
PNRC2	55629 Refractory Cytopenia of Childhood	C2826323 disease	Neoplastic	264	3	0.01	1	1	0	2019	2019
12 MGST2	4258 Psoriasis vulgaris	C0263361 disease	Skin and Disease or	255	80	0.02	1	2	0	2006	2006
MGST2	4258 Myeloid Leukemia, Chronic	C0023473 disease	Neoplasn Neoplastic	1172	115	0.01	1	1	0	2000	2000
MGST2	4258 Psoriasis	C0033860 disease	Skin and Disease or	1308	705	0.01	0	1	0	2006	2006