

Supplementary Table 2. The results of DO (disease) enrichment analysis of genes in three gene modules

Gene set	ID	P	P _{adjust}	Gene module
Li-Fraumeni syndrome	DB_ID:PA165108952	1.18e-05	0.0018	Black
Translocation, genetic	DB_ID:PA445914	4.19e-05	0.0032	Black
Myotonic dystrophy	DB_ID:PA445031	0.0004	0.0087	Black
Raynaud disease	DB_ID:PA445499	0.0002	0.0087	Black
Mental disorders	DB_ID:PA447208	0.0003	0.0087	Black
Generalised lentiginosis	DB_ID:PA165108848	0.0003	0.0087	Black
Anemia	DB_ID:PA443340	0.0004	0.0087	Black
Nervous system diseases	DB_ID:PA445093	0.0010	0.0191	Black
Leukemia	DB_ID:PA444750	0.0022	0.0262	Black
Muscle hypotonia	DB_ID:PA444992	0.0021	0.0262	Black
Amyotrophic lateral sclerosis	HP:0007354	1.45e-05	0.0158	Blue
Vascular skin abnormality	HP:0007354	0.0011	0.1332	Blue
Atrophy/degeneration involving motor neurons	HP:0007373	0.0006	0.1332	Blue
Abnormality of the dorsal column of the spinal cord	HP:0011397	0.0010	0.1332	Blue
Decreased sensory nerve conduction velocity	HP:0003448	0.0010	0.1332	Blue
Abnormal bleeding	HP:0001892	0.0009	0.1332	Blue
Frontotemporal dementia	HP:0001892	0.0010	0.1332	Blue
Internal hemorrhage	HP:0011029	0.0011	0.1332	Blue
Abnormality of blood circulation	HP:0011028	0.0011	0.1332	Blue
Peripheral neuropathy	HP:0009830	0.0019	0.1713	Blue
cancer or viral infections	DB_ID:PA128407012	4.12e-11	3.09e-08	Turquoise
Neoplasms	DB_ID:PA445062	6.29e-09	2.36e-06	Turquoise
H syndrome	DB_ID:PA162372881	1.25e-07	3.12e-05	Turquoise
Syndrome	DB_ID:PA445789	1.00e-06	0.0002	Turquoise
Pigmentation disorders	DB_ID:PA445325	1.58e-06	0.0002	Turquoise
Mycosis fungoides	DB_ID:PA445010	1.01e-06	0.0002	Turquoise
Neoplasm of unspecified nature of digestive system	DB_ID:PA165108442	3.66e-06	0.0003	Turquoise
Lymphoma	DB_ID:PA444840	3.18e-06	0.0003	Turquoise
Chromosome aberrations	DB_ID:PA443728	2.78e-06;	0.0003	Turquoise