

Deep Learning Deciphers the Related Role of Master Regulators and G-Quadruplexes in Tissue Specification

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Supplementary Table 6. MRG binding sites vs GQ predictions permutation tests

Tissue	MRG name	HPA genes (N)	with MRG	with MRG and GQ	GQ share	p_value
Neural	NEUROD1	2148	905	857	0.95	< 0.001
Neural	ASCL1	2148	1664	1563	0.94	< 0.001
Neural	PAX6	2148	75	73	0.97	< 0.001
Neural	SOX2	2148	156	142	0.91	0.078
Neural	NANOG	2148	418	374	0.89	0.115
Neural	POU5F1	2148	178	159	0.89	0.219
Liver	E2F1	949	254	245	0.96	< 0.001
Liver	HNF1A	949	525	418	0.80	< 0.001
Liver	GATA4	949	295	236	0.80	0.001
Liver	HNF4A	949	861	635	0.74	0.021
Liver	CEBPA	949	614	449	0.73	0.398
Liver	FOXA1	949	689	497	0.72	0.791
Breast	ESR1	122	102	68	0.67	< 0.001
Breast	STAT5A	122	37	28	0.76	0.001
Breast	CEBPB	122	47	32	0.68	0.027
Breast	FOXA1	122	93	57	0.61	0.036
Breast	GATA3	122	91	56	0.62	0.038
Muscle	MYOD1	860	726	654	0.90	< 0.001
Muscle	MYF5	860	262	240	0.92	< 0.001
Muscle	MYOG	860	154	133	0.86	0.238
Pancreas	GATA6	289	80	76	0.95	< 0.001
Pancreas	HNF1B	289	66	56	0.85	0.092
Pancreas	SOX9	289	7	7	1.00	N/A
Pancreas	HNF1A	289	6	4	0.67	N/A
Cardiovascular	SRF	402	2	2	1.00	N/A
Cardiovascular	MEF2C	402	0	0	N/A	N/A
Cardiovascular	PPARG	402	0	0	N/A	N/A
Digestive tract	SOX9	1285	279	260	0.93	< 0.001
Digestive tract	GATA4	1285	603	477	0.79	< 0.001
Digestive tract	TCF7L2	1285	380	343	0.90	< 0.001
Digestive tract	CDX2	1285	284	189	0.67	0.983
Digestive tract	GATA6	1285	285	190	0.67	0.989
Digestive tract	HNF1B	1285	0	0	N/A	N/A
Digestive tract	HNF1A	1285	26	16	0.62	N/A
Kidney	WT1	449	59	54	0.92	< 0.001
Kidney	SIX2	449	95	68	0.72	0.437
Lung	FOXA2	187	35	30	0.86	< 0.001
Lung	NKX2-1	187	88	68	0.77	0.001
Lung	EPAS1	187	3	3	1.00	N/A

Tissue	MRG name	HPA genes (N)	with MRG	with MRG and GQ	GQ share	p_value
Epidermis	KLF4	593	319	274	0.86	< 0.001
Epidermis	TP63	593	270	212	0.79	< 0.001
Epidermis	GRHL3	593	233	212	0.91	< 0.001
Prostate	AR	118	114	95	0.83	0.143
Prostate	FOXA1	118	106	88	0.83	0.337
Prostate	NKX3-1	118	19	12	0.63	N/A
Adipocyte	PPARG	222	142	117	0.82	0.007
Adipocyte	CEBPA	222	60	42	0.70	0.915
Bone	RUNX2	895	3	3	1.00	N/A
Uterus	FOXA2	795	131	110	0.84	< 0.001