

Supplementary Table 2

Pathway	Gene	Ordinal Genetic Model			Dominant Genetic Model		Recessive Genetic Model	
		Number of SNPs Tested	Number of Principal Components Extracted	p-value	Number of Principal Components Extracted	p-value	Number of Principal Components Extracted	p-value
GSH	<b>GSTM5</b>	4	2	0.0911	2	0.7577	2	<b>0.0022</b>
GSH	<b>GSTA5</b>	5	2	0.0679	3	<b>0.0188</b>	2	0.0779
GSH	<b>GCLC</b>	13	4	0.1190	5	<b>0.0207</b>	4	0.7152
GSH	<b>GSTM3</b>	3	2	0.3388	2	0.3208	2	<b>0.0216</b>
Inflammation	<b>PTGS2</b>	7	3	<b>0.0211</b>	4	0.1082	3	0.3929
GSH	<b>ABCC4</b>	63	14	0.2818	20	<b>0.0146</b>	20	0.9484
GSH	<b>GSTA1</b>	2	1	0.0598	1	0.2958	1	<b>0.0372</b>
GSH	<b>GSTA2</b>	2	1	<b>0.0434</b>	2	0.0727	1	0.0618
GSH	<i>GSTZ1</i>	9	4	0.0725	5	0.0706	3	0.6373
Inflammation	<i>IL10</i>	7	3	0.0928	4	0.0517	3	0.5225
DNA	APEX1	2	1	0.8288	2	0.0839	1	0.7989
DNA	MLH1	2	1	0.8251	1	0.3459	1	0.0704
DNA	OGG1	3	2	0.1275	2	0.1843	2	0.0686
DNA	MSH3	15	3	0.2178	4	0.4000	5	0.1205
GSH	GSTP1	5	2	0.0834	2	0.1546	2	0.2035
DNA	RAD51	2	2	0.2314	2	0.3409	2	0.0937
DNA	MSH2	6	3	0.1469	3	0.3213	2	0.4303
GSH	GPX2	3	1	0.0962	2	0.1325	1	0.4979
GSH	GCLM	3	2	0.4323	2	0.3899	2	0.1432
Inflammation	IL1RN	6	3	0.0908	3	0.0807	2	0.1304
GSH	GSTA4	8	4	0.2096	4	0.1691	2	0.0958
GSH	ABCC3	14	6	0.1762	7	0.2472	7	0.6833
Inflammation	TNF	6	3	0.9077	3	0.9611	2	0.1121
DNA	RAD52	10	3	0.3330	4	0.1441	4	0.9050
DNA	PARP	12	3	0.1685	4	0.1259	4	0.1616
GSH	GSS	7	3	0.6433	4	0.7673	3	0.3614
GSH	ABCC1	28	9	0.3546	11	0.4773	10	0.6715
GSH	GSTM4	4	2	0.9839	3	0.6848	2	0.2704
DNA	MSH6	9	3	0.2378	4	0.2884	4	0.8602
DNA	ERCC2	7	3	0.3957	4	0.4340	4	0.3390
GSH	GSTO1	5	2	0.4120	2	0.4189	1	0.5427

DNA	MGMT	38	11	0.2978	15	0.7216	15	0.3138
GSH	GSR	6	3	0.3499	3	0.3583	3	0.3599
GSH	GSTA3	5	2	0.2875	2	0.2803	1	0.5620
DNA	RAD50	3	2	0.4135	2	0.3461	3	0.9548
GSH	GSTO2	6	1	0.6207	2	0.5205	1	0.5534
Inflammation	IL8	2	1	0.4213	1	0.5951	1	0.4260
DNA	XRCC1	5	2	0.6852	3	0.7700	2	0.8735
GSH	GPX3	6	2	0.4587	3	0.4912	2	0.3172
DNA	XPC	6	2	0.4854	3	0.4007	3	0.6803
Inflammation	LTA	4	2	0.8628	2	0.9968	2	0.5818
GSH	ABCC2	11	3	0.8628	5	0.7349	3	0.8354
DNA	LIG1	5	2	0.6195	2	0.4088	2	0.6560
Inflammation	IL1B	5	3	0.9062	3	0.9315	3	0.6336
DNA	XPA	5	3	0.7207	3	0.4996	2	0.6823
DNA	RRM1	6	2	0.7137	3	0.8098	2	0.6825
DNA	ERCC1	5	2	0.8128	2	0.7323	2	0.9266
GSH	GPX5	3	2	0.8356	2	0.7344	2	0.9599
Inflammation	IL6	7	3	0.9810	4	0.9866	2	0.7623
GSH	GPX6	3	2	0.9196	2	0.7967	2	0.9599
GSH	GPX7	2	1	0.8390	2	0.7976	1	0.6392