

Supplementary Table 1 - Summary of Single Nucleotide Polymorphisms Analyzed for Pro- and Anti-Inflammatory Cytokine Genes and the Growth Mixture Model Analysis for Fatigue and Energy Scores

Gene	SNP	Position	Chr	MAF	Alleles	Fatigue			Energy		
						Chi Square	p-value	Model	Chi Square	p-value	Model
<i>IFNG1</i>	rs2069728	68154003	12	0.110	G>A	1.023	0.6	A	2.337	0.311	A
<i>IFNG1</i>	rs2069727	68154442	12	0.384	A>G	0.138	0.933	A	0.051	0.975	A
<i>IFNG1</i>	rs2069718	68156381	12	0.494	C>T	FE	0.035	R	1.001	0.606	A
<i>IFNG1</i>	rs1861493	68157415	12	0.266	A>G	1.528	0.466	A	1.205	0.547	A
<i>IFNG1</i>	rs1861494	68157628	12	0.273	T>C	1.841	0.398	A	1.073	0.585	A
<i>IFNG1</i>	rs2069709	68159922	12	0.003	G>T	n/a	n/a	n/a	n/a	n/a	n/a
<i>IFNG1</i>	HapA3					1.618	0.445		1.374	0.503	
<i>IFNG1</i>	HapA5					0.126	0.939		0.013	0.994	
<i>IFNGR1</i>	rs9376268	137211613	6	0.254	G>A	1.053	0.591	A	1.974	0.373	A
<i>IL1B</i>	rs1071676	112829855	2	0.189	G>C	1.467	0.48	A	2.505	0.286	A
<i>IL1B</i>	rs1143643	112830724	2	0.383	G>A	0.478	0.787	A	1.647	0.439	A
<i>IL1B</i>	rs1143642	112830975	2	0.082	C>T	0.065	0.968	A	0.384	0.825	A
<i>IL1B</i>	rs1143634	112832812	2	0.187	C>T	1.22	0.543	A	2.183	0.336	A
<i>IL1B</i>	rs1143633	112832889	2	0.392	G>A	0.745	0.689	A	1.722	0.423	A
<i>IL1B</i>	rs1143630	112834077	2	0.115	C>A	2.466	0.291	A	3.457	0.178	A
<i>IL1B</i>	rs3917356	112834785	2	0.450	G>A	1.293	0.524	A	0.129	0.938	A
<i>IL1B</i>	rs1143629	112835940	2	0.389	T>C	FE	0.011	R	2.111	0.348	A
<i>IL1B</i>	rs1143627	112836809	2	0.397	T>C	FE	0.005	R	1.985	0.371	A
<i>IL1B</i>	rs16944	112837289	2	0.386	G>A	FE	0.002	R	1.898	0.387	A
<i>IL1B</i>	rs1143623	112838251	2	0.277	G>C	FE	0.028	D	1.045	0.593	A
<i>IL1B</i>	rs13032029	112842837	2	0.448	C>T	0.91	0.634	A	0.042	0.979	A
<i>IL1B</i>	HapA1					2.056	0.358		1.243	0.537	
<i>IL1B</i>	HapA4					0.389	0.823		1.456	0.483	
<i>IL1B</i>	HapA6					1.26	0.533		2.27	0.321	
<i>IL1B</i>	HapB1					4.747	0.093		4.443	0.108	
<i>IL1B</i>	HapB6					4.185	0.123		0.243	0.885	
<i>IL1B</i>	HapB8					0.783	0.676		0.2	0.905	
<i>IL1R1</i>	rs949963	102153325	2	0.223	G>A	2.084	0.353	A	3.995	0.136	A
<i>IL1R1</i>	rs2228139	102165188	2	0.053	C>G	0.721	0.697	A	3.402	0.182	A
<i>IL1R1</i>	rs3917320	102176414	2	0.047	A>C	n/a	n/a	n/a	n/a	n/a	n/a

IL1R1	rs2110726	102177821	2	0.317	C>T	1.581	0.454	A	FE	0.021	D
IL1R1	rs3917332	102180063	2	0.187	A>T	0.322	0.851	A	2.011	0.366	A
IL1R1	HapA1					1.487	0.475		5.074	0.079	
IL1R1	HapA2					0.227	0.892		3.965	0.138	
IL1R1	HapA3					0.296	0.863		1.974	0.373	
IL1R2	rs4141134	101990063	2	0.362	T>C	0.508	0.776	A	0.035	0.983	A
IL1R2	rs11674595	101994529	2	0.258	T>C	0.111	0.946	A	1.184	0.553	A
IL1R2	rs7570441	102000532	2	0.408	G>A	0.241	0.886	A	0.027	0.986	A
IL1R2	HapA1					0.342	0.843		0.014	0.993	
IL1R2	HapA2					FE	0.697		FE	0.076	
IL1R2	HapA4					0.152	0.927		0.631	0.73	
IL2	rs1479923	122449231	4	0.308	C>T	2.05	0.359	A	1.065	0.587	A
IL2	rs2069776	122450820	4	0.184	T>C	n/a	n/a	n/a	n/a	n/a	n/a
IL2	rs2069772	122451977	4	0.241	A>G	1.242	0.538	A	1.377	0.502	A
IL2	rs2069777	122455281	4	0.047	C>T	n/a	n/a	n/a	n/a	n/a	n/a
IL2	rs2069763	122456326	4	0.277	T>G	0.921	0.631	A	1.067	0.587	A
IL2	HapA1					0.767	0.681		0.005	0.997	
IL2	HapA2					0.998	0.607		1.142	0.565	
IL2	HapA3					1.242	0.538		1.377	0.502	
IL4	rs2243248	132672951	5	0.086	T>G	3.529	0.171	A	3.142	0.208	A
IL4	rs2243250	132673461	5	0.269	C>T	n/a	n/a	n/a	n/a	n/a	n/a
IL4	rs2070874	132674017	5	0.245	C>T	n/a	n/a	n/a	n/a	n/a	n/a
IL4	rs2227284	132677032	5	0.387	C>A	n/a	n/a	n/a	n/a	n/a	n/a
IL4	rs2227282	132677486	5	0.390	C>G	n/a	n/a	n/a	n/a	n/a	n/a
IL4	rs2243263	132677606	5	0.124	C>G	2.202	0.333	A	0.503	0.778	A
IL4	rs2243266	132678096	5	0.237	G>A	n/a	n/a	n/a	n/a	n/a	n/a
IL4	rs2243267	132678193	5	0.237	G>C	n/a	n/a	n/a	n/a	n/a	n/a
IL4	rs2243274	132679139	5	0.261	G>A	n/a	n/a	n/a	n/a	n/a	n/a
IL4	HapA1					2.802	0.246		0.001	0.999	
IL4	HapA3					4.5	0.105		1.053	0.591	
IL4	HapX1					2.618	0.27		1.635	0.441	
IL6	rs4719714	22721093	7	0.255	A>T	1.51	0.47	A	0.05	0.975	A
IL6	rs2069827	22725836	7	0.069	G>T	1.768	0.413	A	2.118	0.347	A
IL6	rs1800796	22726626	7	0.134	C>G	n/a	n/a	n/a	n/a	n/a	n/a
IL6	rs1800795	22727025	7	0.285	C>G	0.989	0.61	A	0.045	0.978	A
IL6	rs2069835	22728251	7	0.061	T>C	n/a	n/a	n/a	n/a	n/a	n/a
IL6	rs2066992	22728629	7	0.049	G>T	2.819	0.244	A	2.43	0.297	A

IL6	rs2069840	22728952	7	0.333	C>G	3.081	0.214	A	1.747	0.418	A
IL6	rs1554606	22729087	7	0.319	G>T	1.668	0.434	A	0.306	0.858	A
IL6	rs2069845	22730529	7	0.319	A>G	1.668	0.434	A	0.306	0.858	A
IL6	rs2069849	22731536	7	0.024	C>T	n/a	n/a	n/a	n/a	n/a	n/a
IL6	rs2069861	22732034	7	0.056	C>T	0.405	0.817	A	0.813	0.666	A
IL6	rs35610689	22734200	7	0.259	A>G	0.946	0.623	A	0.323	0.851	A
IL6	HapA1					0	1		0.118	0.943	
IL6	HapA5					3.247	0.197		2.979	0.225	
IL6	HapA8					1.254	0.534		0.476	0.788	
CXCL8	rs4073	73740306	4	0.455	T>A	0.347	0.841	A	0.419	0.811	A
CXCL8	rs2227306	73741337	4	0.366	C>T	0.146	0.93	A	0.459	0.795	A
CXCL8	rs2227543	73742192	4	0.368	C>T	0.38	0.827	A	1.086	0.581	A
CXCL8	HapA1					0.347	0.841		0.419	0.811	
CXCL8	HapA4					0.174	0.916		0.764	0.682	
IL10	rs3024505	206766558	1	0.129	C>T	1.126	0.57	A	2.853	0.24	A
IL10	rs3024498	206768183	1	0.204	A>G	3.233	0.199	A	0.811	0.667	A
IL10	rs3024496	206768518	1	0.421	T>C	FE	0.007	R	3.195	0.202	A
IL10	rs1878672	206770367	1	0.416	G>C	FE	0.043	D	1.593	0.451	A
IL10	rs3024492	206770766	1	0.190	T>A	n/a	n/a	n/a	n/a	n/a	n/a
IL10	rs1518111	206771299	1	0.303	G>A	0.417	0.812	A	0.387	0.824	A
IL10	rs1518110	206771515	1	0.301	G>T	0.334	0.846	A	0.433	0.806	A
IL10	rs3024491	206771700	1	0.408	G>T	FE	0.043	D	1.588	0.452	A
IL10	HapA1					0.662	0.718		0.386	0.824	
IL10	HapA2					2.763	0.251		1.535	0.464	
IL10	HapA8					2.276	0.321		0.896	0.639	
IL13	rs1881457	132656716	5	0.210	A>C	1.785	0.41	A	1.576	0.455	A
IL13	rs1800925	132657116	5	0.233	C>T	1.553	0.46	A	0.846	0.655	A
IL13	rs2069743	132657582	5	0.019	A>G	n/a	n/a	n/a	n/a	n/a	n/a
IL13	rs1295686	132660150	5	0.265	G>A	0.192	0.908	A	0.329	0.848	A
IL13	rs20541	132660271	5	0.212	C>T	2.79	0.248	A	0.12	0.942	A
IL13	HapA1					0.22	0.896		0.434	0.805	
IL13	HapA4					2.713	0.258		0.055	0.973	
IL17A	rs4711998	52185554	6	0.346	G>A	1.467	0.48	A	0.579	0.749	A
IL17A	rs8193036	52185694	6	0.327	T>C	0.515	0.773	A	4.504	0.105	A
IL17A	rs3819024	52185987	6	0.372	A>G	1.807	0.405	A	0.585	0.746	A
IL17A	rs2275913	52186234	6	0.361	G>A	1.41	0.494	A	1.466	0.48	A
IL17A	rs3804513	52188398	6	0.023	A>T	n/a	n/a	n/a	n/a	n/a	n/a

<i>IL17A</i>	rs7747909	52189450	6	0.217	G>A	1.944	0.378	A	1.28	0.527	A
<i>NFKB1</i>	rs3774933	102505181	4	0.409	T>C	1.182	0.554	A	0.182	0.913	A
<i>NFKB1</i>	rs170731	102527745	4	0.358	A>T	0.01	0.995	A	1.261	0.532	A
<i>NFKB1</i>	rs17032779	102545092	4	0.011	T>C	n/a	n/a	n/a	n/a	n/a	n/a
<i>NFKB1</i>	rs230510	102555008	4	0.410	T>A	1.51	0.47	A	0.505	0.777	A
<i>NFKB1</i>	rs230494	102565811	4	0.434	A>G	0.296	0.863	A	1.145	0.564	A
<i>NFKB1</i>	rs4648016	102568512	4	0.010	C>T	n/a	n/a	n/a	n/a	n/a	n/a
<i>NFKB1</i>	rs4648018	102569042	4	0.018	G>C	n/a	n/a	n/a	n/a	n/a	n/a
<i>NFKB1</i>	rs3774956	102587368	4	0.435	C>T	0.088	0.957	A	0.889	0.641	A
<i>NFKB1</i>	rs10489114	102590230	4	0.018	A>G	n/a	n/a	n/a	n/a	n/a	n/a
<i>NFKB1</i>	rs4648068	102597147	4	0.363	A>G	0.179	0.914	A	1.87	0.393	A
<i>NFKB1</i>	rs4648095	102606718	4	0.052	T>C	FE	0.569	A	FE	0.845	A
<i>NFKB1</i>	rs4648110	102612663	4	0.170	T>A	2.318	0.314	A	0.215	0.898	A
<i>NFKB1</i>	rs4648135	102615512	4	0.061	A>G	FE	1	A	FE	0.363	A
<i>NFKB1</i>	rs4648141	102615743	4	0.180	G>A	3.513	0.173	A	0.595	0.743	A
<i>NFKB1</i>	rs1609798	102616284	4	0.337	C>T	0.181	0.914	A	2.13	0.345	A
<i>NFKB1</i>	HapA1					1.352	0.509		0.375	0.829	
<i>NFKB1</i>	HapA9					0.142	0.931		1.569	0.456	A
<i>NFKB2</i>	rs12772374	102397153	10	0.168	A>G	3.607	0.165	A	2.116	0.347	A
<i>NFKB2</i>	rs7897947	102397953	10	0.221	T>G	0.347	0.841	A	2.07	0.355	A
<i>NFKB2</i>	rs11574849	102399938	10	0.070	G>A	3.945	0.139	A	5.765	0.056	A
<i>NFKB2</i>	rs1056890	102403012	10	0.305	C>T	0.576	0.75	A	2.212	0.331	A
<i>TNF SF</i>	rs2857602	31565600	6	0.341	T>C	0.872	0.647	A	0.711	0.701	A
<i>TNF SF</i>	rs1800683	31572293	6	0.390	G>A	1.416	0.493	A	2.762	0.251	A
<i>TNF SF</i>	rs2239704	31572363	6	0.335	G>T	0.327	0.849	A	1.369	0.504	A
<i>TNF SF</i>	rs2229094	31572778	6	0.278	T>C	1.012	0.603	A	4.703	0.095	A
<i>TNF SF</i>	rs1041981	31573006	6	0.386	C>A	1.222	0.543	A	2.796	0.247	A
<i>TNF SF</i>	rs1799964	31574530	6	0.224	T>C	1.033	0.597	A	1.34	0.512	A
<i>TNF SF</i>	rs1800750	31575185	6	0.016	G>A	n/a	n/a	n/a	n/a	n/a	n/a
<i>TNF SF</i>	rs1800629	31575253	6	0.149	G>A	1.951	0.377	A	4.037	0.133	A
<i>TNF SF</i>	rs1800610	31576049	6	0.100	C>T	1.088	0.58	A	0.153	0.926	A
<i>TNF SF</i>	rs3093662	31576411	6	0.074	A>G	2.262	0.323	A	1.228	0.541	A
<i>TNF SF</i>	HapA1					0.28	0.869		2.259	0.323	
<i>TNF SF</i>	HapA5					0.198	0.906		1.134	0.567	
<i>TNF SF</i>	HapA6					0.017	0.991		2.877	0.237	

A = additive model, Chr = chromosome (GRCh38 human reference assembly), D = dominant model, Hap = haplotype, IFNG = interferon gamma, IL = interleukin, MAF = minor allele frequency, n/a = not assayed because SNP violated Hardy-Weinberg expectations ($p < 0.001$) or because MAF

was $<.05$, NF κ B = nuclear factor kappa beta, R = recessive model, SNP= single nucleotide polymorphism, TNF SF = tumor necrosis factor superfamily

