

Genotype Summary Report: Immune System

Created for: **SAMPLE**

[Article: Vaccines and Autoimmune Diseases](#)

Gene	RS ID	Effect Allele	Your Genotype	Notes About Effect Allele
HLA-DRB1	rs660895	G	AA	Increase risk of ASIA syndrome
HLA-DRB1	rs3135388	A	AG	Increased risk of MS from a specific flu vaccine
IL2	rs2069763	A	CC	High antibody response to measles vax; Increased risk of T1D
PTPN22	rs2476601	A	GG	Increased risk of autoimmune diseases; altered response to trivalent flu
IL-17F	rs763780	C	TT	Increased risk of autoimmune thrombocytopenia

[Article: HMGB1](#)

Gene	RS ID	Effect Allele	Your Genotype	Notes About Effect Allele
HMGB1	rs1045411	T	CT	Increased risk of sepsis;
HMGB1	rs1412125	T	CT	Increased risk for acquired pneumonia
HMGB1	rs1360485	C	CT	Increased risk of progression in breast cancer



[Article: Viral Susceptibility](#)

Gene	RS ID	Effect Allele	Your Genotype	Notes About Effect Allele
HLA-DRB1	rs2187668	T	CC	Significantly less likely to have SARS coronavirus
CCL2	rs1024611	G	AA	Increased susceptibility to SARS coronavirus
CD209	rs4804803	G	AA	Increased susceptibility to malaria; tuberculosis; chronic hepatitis
MBL2	rs1800450	T	CC	Increased susceptibility to tuberculosis; SARS
OAS1	rs10774671	G	AG	lower risk of West Nile Virus (good)
OAS1	rs2660	G	AG	Protective against SARS
MX1	rs17000900	A	AC	Protective against SARS
FUT2	rs601338	A	AA	AA: resistant to norovirus and rotavirus
IL1B	rs16944	G	AA	GG only: less than half the risk of H3N2 flu
IL28	rs8099917	G	GT	Half the risk for H3N2 flu
TNF	rs361525	A	GG	AA only: Increased risk for H1N1 flu complications
CD55	rs2564978	T	CC	TT: Increased risk for H1N1 flu
CCR5	rs333	D	--	DD: resistant to most strains of HIV
TLR3	rs3775291	T	CC	Decreased risk of hep B; dengue fever and HSV2
IFIH1	rs1990760	T	CT	Decreased risk for several RNA viruses
CCR5	i3003626	D	II	DD: resistant to most strains of HIV

[Article: HIV](#)

Gene	RS ID	Effect Allele	Your Genotype	Notes About Effect Allele
CCR5	i3003626	D	II	CCR5 delta 32 mutation
CCR5	rs333	D	--	CCR5 delta 32 mutation

[Article: Response to Vaccines](#)

Gene	RS ID	Effect Allele	Your Genotype	Notes About Effect Allele
HLA-DQ2	rs2187668	T	CC	Decreased antibody response to hep. B and measles vaccine
HLA-DPB1	rs3117230	G	AA	Low antibody response to rubella vaccine
SLAM	rs3796504	T	GG	4 to 8-fold lower antibody response to measles vaccine
CD46	rs2724384	G	AG	Lower response to measles vaccine; Increased antibody response to mumps
TLR3	rs7657186	A	AA	Lower antibody response to MenC vaccine
IL12B	rs3212227	G	GT	Low response to some flu vaccines
IL-12RB2	rs2201584	A	GG	Lower response to mumps vaccine
IL6	rs1800796	G	CG	GG: Increased response to some flu vaccine
IL-28B	rs8099917	G	GT	Twice as likely to produce antibodies for flu vaccine
intergenic	rs10489759	T	CC	Greatly Decreased response to smallpox vaccine

[Article: Acute Respiratory Distress Syndrome](#)

Gene	RS ID	Effect Allele	Your Genotype	Notes About Effect Allele
VEGFA	rs3025039	T	CC	Lower VEGF; Increased risk of mortality in ARDS
ANGPT2	rs2442608	C	CC	CC: Increased ANG2; slightly Increased risk ARDS
ANGPT2	rs2442630	G	--	Increased risk of ARDS
ANGPT2	rs2515475	T	CC	Increased risk of ARDS
MBL2	rs1800450	T	CC	Lower MBL; Increased risk of getting ARDS
MYD88	rs7744	G	AA	Decreased ARDS risk in adults <60
TNF	rs1800629	A	GG	Increased TNF-alpha; Increased ARDS risk in adults <60
IL17	rs2275913	A	GG	Decreased IL17; Decreased ARDS risk; Decreased mortality
NAMPT	rs9770242	C	AA	Slightly Increased risk of ARDS



[Article: Lyme Disease](#)

Gene	RS ID	Effect Allele	Your Genotype	Notes About Effect Allele
TLR1	rs5743618	C	--	CC only: Increased risk of antibiotic-resistant Lyme arthritis
HLA-DRB1	rs660895	G	AA	Increased risk of Lyme arthritis
TLR2	rs5743708	A	--	Reduced risk of Lyme
ANO10	rs41289586	T	--	Increased risk of Lyme
ABCB1	rs1128503	G	GG	AG only: Increased risk of post-treatment Lyme

[Article: mRNA Side Effects](#)

Gene	RS ID	Effect Allele	Your Genotype	Notes About Effect Allele
HLA-A	rs2571381	T	--	HLA-A*03:01 alleles, 2-fold increased risk of severe or extreme side effects from Pfizer COVID-19 vaccine, possibly increased risk for severe or extreme side effects from Moderna
HLA-A	i5018047	T	--	HLA-A*03:01 alleles, 2-fold increased risk of severe or extreme side effects from Pfizer COVID-19 vaccine, possibly increased risk for severe or extreme side effects from Moderna

[Article: Lyme Susceptibility](#)

Gene	RS ID	Effect Allele	Your Genotype	Notes About Effect Allele
TLR1	rs5743618	C	--	CC only: Increased risk of antibiotic-resistant Lyme arthritis
TLR1	rs5743708	A	--	less than half the risk of Lyme
HLA-DRB1	rs660895	G	AA	increased risk of Lyme arthritis, rheumatoid arthritis.

[Article: Flu](#)

Gene	RS ID	Effect Allele	Your Genotype	Notes About Effect Allele
IL17A	rs2275913	A	GG	A/A: ~ half the risk for H3N2 flu
IL1B	rs16944	G	AA	G/G: half the risk for H3N2 flu
IL28	rs8099917	G	GT	Half the risk for H3N2 flu
CCR5	i3003626	D	II	higher risk of flu or increased severity of flu
CD55	rs2564978	T	CC	T/T: increased severity of H1N1 flu infection
MBL2	rs1800450	T	CC	less likely to have severe H1N1
FCGR2A	rs1801274	A	GG	increased relative risk of severe pneumonia in H1N1 flu
CCR5	rs333	D	--	Higher risk of flu or increased severity of flu



[Article: Vitamin D Immune System](#)

Gene	RS ID	Effect Allele	Your Genotype	Notes About Effect Allele
CYP2R1	rs2060793	A	AA	Lower vitamin D levels
CYP2R1	rs1562902	T	CC	Higher vitamin D levels
CYP27B1	rs10877012	T	GT	Lower vitamin D levels
CYP27B1	rs4646536	A	AG	Lower vitamin D levels
CYP27B1	rs28934607	A	GG	Mutation that causes vitamin D related rickets (rare)
CYP27B1	rs28934605	T	CC	Mutation that causes vitamin D related rickets (rare)
CYP27B1	rs28934604	T	CC	Mutation that causes vitamin D related rickets (rare)
GC	rs2282679	G	TT	Lower vitamin D levels
GC	rs7041	A	CC	Lower vitamin D levels
GC	rs1155563	C	TT	Lower vitamin D levels
VDR-Taql	rs731236	A	AG	Lower vitamin D levels
VDR-Bsml	rs1544410	T	CT	Lower vitamin D levels
VDR-FokI	rs2228570	G	--	Lower vitamin D levels
VDR	rs7975232	C	AA	CC: Half the risk of dengue fever, likely indicates slightly higher vitamin D
GC	rs12512631	C	CC	CC only: slightly higher vitamin D

[Article: Cavity Genes](#)

Gene	RS ID	Effect Allele	Your Genotype	Notes About Effect Allele
DEFB1	rs11362	C	TT	C/C: increased risk of cavities
DEFB1	rs1799946	T	CC	T/T: increased risk of cavities
IL32	rs4786370	C	CT	much more likely to carry the bacteria that causes cavities (S. mutans)
GALK2	rs11635005	C	CC	C/C: Carrying S. mutans significantly increases the risk of cavities, lower GALK2 enzyme activity
AMELX	rs946252	T	CT	increased risk of cavities
AQP6	rs1996315	A	AA	Decreased risk of cavities
WNT10A	rs121908120	A	--	Decreased risk of cavities
C5orf66	rs1122171	T	TT	An average of 1.2 to 2.4 more cavities

[Article: Acupuncture](#)

Gene	RS ID	Effect Allele	Your Genotype	Notes About Effect Allele
TRPV1	rs8065080	C	TT	C/C: less TRPV1 activation, acupuncture may be less likely to work
NFKB2	rs1056890	G	GG	G/G: more likely to respond to acupuncture (common genotype)
TCL1A	rs2369049	G	AG	more likely to respond to acupuncture
COMT	rs4680	A	AG	lower COMT activity, more likely to respond to acupuncture
COMT	rs6269	G	AG	A/G: more likely to respond to acupuncture for hot flashes
ANKK1	rs1800497	A	GG	A/A: Likely less of a response to acupuncture for smoking cessation

[Article: Grass Pollen Allergy](#)

Gene	RS ID	Effect Allele	Your Genotype	Notes About Effect Allele
HLA-DRB4	rs7775228	C	TT	more likely to be allergic to grass pollen
FLG	rs61816761	A	--	(rare mutation) more likely to be allergic to grass pollen
IL2	rs2069762	C	AC	Increased risk of grass allergy. (Inflammatory cytokine)
IL33	rs928413	G	GG	Increased risk of hay fever



[Article: Chronic Sinus Infection](#)

Gene	RS ID	Effect Allele	Your Genotype	Notes About Effect Allele
TAS2R38	rs10246939	C	CT	less likely to have chronic sinus infections
TAS2R38	rs713598	G	CC	less likely to have chronic sinus infections
NOS1	rs9658281	T	CT	Decreased risk of chronic sinus infections
ALOX15	rs34210653	A	GG	Significantly reduced risk for nasal polyps and chronic sinus infections
IL1RL1	rs13431828	T	CC	Reduced risk of chronic sinus infections
SERPINA1	rs1243168	A	AA	A/A: 6-fold increased risk of chronic rhinosinusitis
TNF	rs1800629	A	GG	Increased TNF-alpha; Increased risk of nasal polyps and sinus infections

[Article: Tamiflu](#)

Gene	RS ID	Effect Allele	Your Genotype	Notes About Effect Allele
CES1	rs71647871	T	CC	60% decreased CES1 enzyme function; decreased conversion of Tamiflu to active medication
CES1	rs121912777	T	--	decreased CES1 enzyme function; decreased conversion of Tamiflu to active medication
ABCB1	rs1045642	A	GG	reduced drug efflux (out of the cell), may need lower dosages of some drugs; Increased risk of adverse events with oseltamivir

[Article: Kawasaki](#)

Gene	RS ID	Effect Allele	Your Genotype	Notes About Effect Allele
FCGR2A	rs1801274	A	GG	Increased susceptibility to Kawasaki disease
ITPKC	rs28493229	G	CG	Increased susceptibility to Kawasaki disease
RAB4B	rs2233152	G	AG	Increased susceptibility to Kawasaki disease
BLK	rs2736340	T	CC	Increased susceptibility to Kawasaki disease
CD40	rs1569723	A	AC	Increased susceptibility to Kawasaki disease, common genotype
INFG	rs1861493	G	AA	Better response to IV immunoglobulin therapy in Kawasaki disease patients

[Article: APOBEC3](#)

Gene	RS ID	Effect Allele	Your Genotype	Notes About Effect Allele
APOBEC3G	rs8177832	G	AA	Higher APOBEC3; decreased HIV-1 risk; decreased risk of chronic hepatitis B
APOBEC3F	rs2076101	G	AA	Lower viral load in HIV with slower progression to AIDS
APOBEC3A	rs12628403	C	--	Increased relative risk of breast cancer in some populations

[Article: IgA Deficiency](#)

Gene	RS ID	Effect Allele	Your Genotype	Notes About Effect Allele
IFIH1	rs1990760	T	CT	increased susceptibility to IgA deficiency
IFIH1	rs35667974	C	TT	protective against IgA deficiency
HLA-DQ2.5	rs2187668	T	CC	increased risk of IgA deficiency
HLA-DRB1	rs3135388	A	AG	strongly protective against IgA deficiency

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