

# List of Abbreviations

**AC** allele count

**APC** antigen-presenting cell

**ASC** antibody-secreting cell

**ASE** allele-specific expression

**AUC** area under the curve

**BCR** B cell receptor

**BH** Benjamini-Hochberg

**BMI** body mass index

**BTM** blood transcription module

**CD** Crohn's disease

**CDR** complementarity-determining region

**ChIP-seq** chromatin immunoprecipitation sequencing

**CPM** counts per million

**CRP** C-reactive protein

**CyTOF** cytometry by time-of-flight

**DAMP** damage-associated molecular pattern

**DC** dendritic cell

**df** degree of freedom

**DGE** differential gene expression

**ELISA** enzyme-linked immunosorbent assay

**ELISPOT** enzyme-linked immune absorbent spot

- eQTL** expression quantitative trait locus
- FACS** fluorescence-activated cell sorting
- FC** fold change
- FDR** false discovery rate
- FWER** family-wise error rate
- GO** Gene Ontology
- GWAS** genome-wide association study
- HA** haemagglutinin
- HAI** haemagglutination inhibition
- HBI** Harvey Bradshaw index
- HIRD** Human Immune Response Dynamics
- HLA** human leukocyte antigen
- HSC** hematopoietic stem cell
- HWE** Hardy-Weinberg equilibrium
- IBD** inflammatory bowel disease
- IIV** inactivated influenza vaccine
- IMID** immune-mediated inflammatory disease
- INT** inverse normal transformation
- IV** instrumental variable
- LAIV** live attenuated influenza vaccine
- LD** linkage disequilibrium
- LFSR** local false sign rate
- LMM** linear mixed model
- LOCO** leave-one-chromosome-out
- LOR** loss of response
- LRT** likelihood ratio test
- MAF** minor allele frequency

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**MANOVA** multivariate analysis of variance

**MAR** missing at random

**MCAR** missing completely at random

**MHC** major histocompatibility complex

**ML** maximum likelihood

**MN** microneutralisation

**MNAR** missing not at random

**molQTL** molecular quantitative trait locus

**MR** Mendelian randomisation

**mRNA** messenger RNA

**MS** multiple sclerosis

**NA** neuraminidase

**ncRNA** non-coding RNA

**NK** natural killer

**PAMP** pathogen-associated molecular pattern

**PANTS** Personalised Anti-TNF Therapy in Crohn's Disease

**PBMC** peripheral blood mononuclear cell

**PC** principal component

**PCA** principal component analysis

**PNR** primary non-response

**PRR** pattern recognition receptor

**PVE** proportion of variance explained

**QTL** quantitative trait locus

**RA** rheumatoid arthritis

**RBC** red blood cell

**REML** restricted maximum likelihood

**reQTL** response expression quantitative trait locus

- RNA-seq** RNA sequencing
- rRNA** ribosomal RNA
- scRNA-seq** single-cell RNA sequencing
- SLE** systemic lupus erythematosus
- SNP** single nucleotide polymorphism
- T1D** type 1 diabetes
- T2D** type 2 diabetes
- TF** transcription factor
- TIV** trivalent inactivated influenza vaccine
- TLR** toll-like receptor
- TMM** trimmed mean of M-values
- TNF** tumour necrosis factor
- TPM** transcripts per million
- TRI** titre response index
- TSS** transcription start site
- TWAS** transcriptome-wide association study
- UC** ulcerative colitis
- UTR** untranslated region
- WES** whole-exome sequencing
- WGS** whole-genome sequencing
- WHO** World Health Organization