consensus HLA Report

Patient HCC1954

17 December, 2024

This HLA report was generated using the consHLA toolkit on 17 December, 2024.

Summary of Clinically Relevant HLA Consensus Alleles

Class-I

HLA-A	HLA-B	HLA-C
33:03:01	40:06:01	15:02:01
24:02:01	No consensus	04:01:01

Class-II

HLA-DRA	HLA-DRB1	HLA-DRB3	HLA-DRB4	HLA-DRB5
01:01:01	16:02:01	Not typed	01:03:01	02:02
01:01:01	04:03:01	Not typed	01:03:01	02:02

HLA-DQA1	HLA-DQB1	HLA-DPA1	HLA-DPB1
01:02:02	05:02:01	01:03:01	09:01:01
03:01:01	03:02:01	02:01:01	04:01:01

All Alleles

HLA Gene	Germline WGS	Tumour WGS	Consensus Status
HLA-A	**33:03:01, 24:02:01**	**33:03:01, 24:02:01**	**Full Consensus**
HLA-B	**35:01:01, 40:06:01**	**40:06:01, 35:42:01**	**Tumour WGS Discrepancy**
HLA-C	**04:01:01, 15:02:01**	**15:02:01, 04:01:01**	**Full Consensus**
HLA-DRB1	**16:02:01, 04:03:01**	**16:02:01, 04:03:01**	**Full Consensus**
HLA-DQA1	**03:01:01, 01:02:02**	**01:02:02, 03:01:01**	**Full Consensus**
HLA-DQB1	**05:02:01, 03:02:01**	**05:02:01, 03:02:01**	**Full Consensus**
HLA-DPA1	**01:03:01, 02:01:01**	**01:03:01, 02:01:01**	**Full Consensus**
HLA-DPB1	**04:01:01, 09:01:01**	**09:01:01, 04:01:01**	**Full Consensus**
HLA-DRA	**01:01:01, 01:01:01**	**01:01:01, 01:01:01**	**Full Consensus**
HLA-DRB3	**Not typed, Not typed**	**Not typed, Not typed**	**Not determined**
HLA-DRB4	**01:03:01, 01:03:01**	**01:03:01, 01:03:01**	**Full Consensus**
HLA-DRB5	**02:02, 02:02**	**02:02, 02:02**	**Full Consensus**
HLA-DMA	01:01:01, 01:01:01	01:01:01, 01:01:01	Full Consensus
HLA-DRB2	Not typed, Not typed	Not typed, Not typed	Not determined
HLA-DMB	01:01:01, 01:01:01	01:01:01, 01:01:01	Full Consensus
HLA-DOA	01:01:02, 01:01:02	01:01:02, 01:01:02	Full Consensus
HLA-DOB	01:01:01, 01:01:01	01:01:01, 01:01:01	Full Consensus
HLA-DRB6	Not typed, Not typed	Not typed, Not typed	Not determined
HLA-DRB7	01:01:01, 01:01:01	01:01:01, 01:01:01	Full Consensus
HLA-DRB8	01:01, 01:01	01:01, 01:01	Full Consensus
HLA-DRB9	Not typed, Not typed	Not typed, Not typed	Not determined
HLA-E	01:03:01, 01:01:01	01:01:01, 01:03:01	Full Consensus
HLA-F	01:01:01, 01:01:03	01:01:01, 01:01:03	Full Consensus
HLA-G	01:04:01, 01:01:01	01:04:03, 01:01:01	Tumour WGS Discrepancy
HLA-H	01:02, 01:02	01:02, 01:02	Full Consensus
HLA-J	01:01:01, 01:01:01	01:01:01, 01:01:01	Full Consensus
HLA-K	01:03, 01:02	01:03, 01:01:01	Tumour WGS Discrepancy
HLA-L	01:02, 01:02	01:02, 01:02	Full Consensus
HLA-V	01:01:01, 01:01:01	01:01:01, 01:01:01	Full Consensus

Appendix

HLA Typing Method

The consensus HLA typing module uses HLA-HD (v1.4.0) to conduct HLA typing from Tumour and Germline WGS and Tumour RNAseq (optional) for a given patient, producing two or three sets of candidate alleles. For each typed HLA gene, a pair of consensus alleles is calculated based on concordance between the candidate allele sets.

The first page of the HLA report displays a "clinically significant" subset of HLA alleles in a format which mimics that of a clinical HLA report and is therefore familiar to clinicians. The "clinically significant" HLA subset includes most of the protein coding Class I and II HLA genes which are implicated in peptide presentation to T cells while excluding HLA Class I pseudogenes (HLA-H, -J, -K, -L, -V), non-classical Class I genes (HLA-E, -F, -G), Class II pseudogenes (HLA-DRB2, -DRB6, -DRB7, -DRB8, and -DRB9), and the non-classical Class II genes (HLA-DOA, -DOB, -DMA and -DMB). The second page of the report displays a table of all HLA alleles typed by the consHLA module (using HLA-HD), including the clinically relevant subset which is highlighted in bold text.