consensus HLA Report

Patient COLO829

02 September, 2024

This HLA report was generated using the consHLA toolkit on 02 September, 2024.

Summary of Clinically Relevant HLA Consensus Alleles

Class-I

HLA-A	HLA-B	HLA-C
01:01:01	08:01:04	07:01:01
01:01:01	40:02:01	03:04:01

Class-II

HLA-DRA	HLA-DRB1	HLA-DRB3	HLA-DRB4	HLA-DRB5
01:02:02	03:01:01	01:01:02	Not typed	Not typed
01:01:01	11:01:01	02:02:01	Not typed	Not typed

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

All Alleles

HLA Gene	Germline WGS	Tumour WGS	Tumour RNA-seq	Consensus Status
HLA-A	**01:01:01, 01:01:01**	**01:01:01, 01:01:01**	**01:01:01, 01:01:01**	**Full Consensus**
HLA-B	**08:01:04, 40:02:01**	**08:01:04, 40:02:01**	**40:02:01, 08:01:04**	**Full Consensus**
HLA-C	**03:04:01, 07:01:01**	**07:01:01, 03:04:01**	**07:01:01, 03:04:01**	**Full Consensus**
HLA-DRB1	**03:01:01, 11:01:01**	**03:01:01, 11:01:01**	**03:01:01, 11:01:01**	**Full Consensus**
HLA-DQA1	**05:05:01, 05:01:01**	**05:05:01, 05:01:01**	**05:01:01, 05:01:01**	**Tumour RNA-seq Discrepancy**
HLA-DQB1	**03:01:01, 02:01:01**	**03:01:01, 02:01:01**	**03:01:01, 02:01:08**	**Tumour RNA-seq Discrepancy**
HLA-DPA1	**01:03:01, 02:01:02**	**01:03:01, 02:01:02**	**01:03:01, 02:01:02**	**Full Consensus**
HLA-DPB1	**02:01:02, 01:01:01**	**02:01:02, 01:01:01**	**02:01:02, 158:01**	**Tumour RNA-seq Discrepancy**
HLA-DRA	**01:02:02, 01:01:01**	**01:02:02, 01:01:01**	**01:01:01, 01:02:02**	**Full Consensus**
HLA-DRB3	**01:01:02, 02:02:01**	**01:01:02, 02:02:01**	**01:01:02, 01:01:02**	**Tumour RNA-seq Discrepancy**
HLA-DRB4	**Not typed, Not typed**	**Not typed, Not typed**	**Not typed, Not typed**	**Not determined**
HLA-DRB5	**Not typed, Not typed**	**Not typed, Not typed**	**Not typed, Not typed**	**Not determined**
HLA-DMA	01:01:01, 01:01:01	01:01:01, 01:01:01	01:01:01, 01:01:01	Full Consensus
HLA-DRB2	01:01, 01:01	01:01, 01:01	Not typed, Not typed	Not determined
HLA-DMB	01:01:01, 01:01:01	01:01:01, 01:01:01	01:01:01, 01:05	Tumour RNA-seq Discrepancy
HLA-DOA	01:01:02, 01:01:02	01:01:02, 01:01:02	Not typed, Not typed	Not determined
HLA-DOB	01:01:03, 01:01:03	01:01:03, 01:01:03	01:01:03, 01:01:03	Full Consensus
HLA-DRB6	Not typed, Not typed	Not typed, Not typed	Not typed, Not typed	Not determined
HLA-DRB7	Not typed, Not typed	Not typed, Not typed	Not typed, Not typed	Not determined
HLA-DRB8	Not typed, Not typed	Not typed, Not typed	Not typed, Not typed	Not determined
HLA-DRB9	Not typed, Not typed	Not typed, Not typed	Not typed, Not typed	Not determined
HLA-E	01:01:01, 01:01:01	01:01:01, 01:01:01	01:01:01, 01:01:01	Full Consensus
HLA-F	01:01:03, 01:01:03	01:01:03, 01:01:03	01:01:01, 01:01:01	Tumour RNA-seq Discrepancy
HLA-G	01:01:02, 01:01:02	01:01:02, 01:01:02	Not typed, Not typed	Not determined
HLA-H	02:01:01, 02:01:01	02:01:01, 02:01:01	02:01:01, 02:01:01	Full Consensus
HLA-J	01:01:01, 01:01:01	01:01:01, 01:01:01	01:01:01, 01:01:01	Full Consensus
HLA-K	01:01:01, 01:01:01	01:01:01, 01:01:01	Not typed, Not typed	Not determined
HLA-L	01:01:02, 01:01:02	01:01:02, 01:01:02	01:01:02, 01:01:02	Full Consensus
HLA-V	01:01:01, 01:01:01	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.