

# Product Information

## MemDX™ Membrane Protein Human HLA-A (Major histocompatibility complex, class I, A)

Cat. No.: **MP0088J**

This product is for research use only and is not intended for diagnostic use.

This product is a 38.5 kDa Human HLA-A membrane protein expressed in HEK293T. The protein is for research use only and is not approved for use in humans or in clinical diagnosis.

### Product Specifications

#### Host Species

Human

#### Target Protein

HLA-A

#### Protein Length

Full-length

#### Protein Class

Transmembrane

#### Molecular Weight

38.5 kDa

#### TMD

1

#### Sequence

MAVMAPRTL L L L L L S G A L A L T Q T W A G S H S M R Y F F T S V S R P G R G E P R F I A V G Y V D D T Q F V R F D S D A A S Q K M E  
P R A P W I E Q E G P E Y W D Q E T R N M K A H S Q T D R A N L G T L R G Y Y N Q S E D G S H T I Q I M Y G C D V G P D G R F L R G Y R Q D  
A Y D G K D Y I A L N E D L R S W T A A D M A A Q I T K R K W E A V H A A E Q R R V Y L E G R C V D G L R R Y L E N G K E T L Q R T D P P K  
T H M T H H P I S D H E A T L R C W A L G F Y P A E I T L T W Q R D G E D Q T Q D T E L V E T R P A G D G T F Q K W A A V V V P S G E E Q R  
Y T C H V Q H E G L P K P L T L R W E L S S Q P T I P V G I I A G L V L L G A V I T G A V V A A V M W R R K S S D R K G G S Y T Q A A S S  
D S A Q G S D V S L T A C K V

### Product Description

#### Expression Systems

HEK293T

#### Tag

C-Myc/DDK

#### Form

Liquid

**Purification**

Anti-DDK affinity column followed by conventional chromatography steps

**Purity**

> 80% as determined by SDS-PAGE and Coomassie blue staining

**Buffer**

25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol

**Storage**

Store at +4°C for up to one week or several months at -80°C

**Target****Target Protein**

HLA-A

**Full Name**

Major histocompatibility complex, class I, A

**Introduction**

HLA-A belongs to the HLA class I heavy chain paralogues. This class I molecule is a heterodimer consisting of a heavy chain and a light chain (beta-2 microglobulin). The heavy chain is anchored in the membrane. Class I molecules play a central role in the immune system by presenting peptides derived from the endoplasmic reticulum lumen so that they can be recognized by cytotoxic T cells. They are expressed in nearly all cells. The heavy chain is approximately 45 kDa and its gene contains 8 exons. Exon 1 encodes the leader peptide, exons 2 and 3 encode the alpha1 and alpha2 domains, which both bind the peptide, exon 4 encodes the alpha3 domain, exon 5 encodes the transmembrane region, and exons 6 and 7 encode the cytoplasmic tail. Polymorphisms within exon 2 and exon 3 are responsible for the peptide binding specificity of each class one molecule. Typing for these polymorphisms is routinely done for bone marrow and kidney transplantation. More than 6000 HLA-A alleles have been described. The HLA system plays an important role in the occurrence and outcome of infectious diseases, including those caused by the malaria parasite, the human immunodeficiency virus (HIV), and the severe acute respiratory syndrome coronavirus (SARS-CoV). The structural spike and the nucleocapsid proteins of the novel coronavirus SARS-CoV-2, which causes coronavirus disease 2019 (COVID-19), are reported to contain multiple Class I epitopes with predicted HLA restrictions. Individual HLA genetic variation may help explain different immune responses to a virus across a population.

**Alternative Names**

HLAA; HLA class I histocompatibility antigen, A alpha chain; MHC class I antigen HLA-A heavy chain; leukocyte antigen class I-A

**Gene ID**

[3105](#)

**UniProt ID**

[P04439](#)