

Product Information

MemDX™ Knockout Human HLA-A A-431 Cell Line

Cat. No.: **S01YF-1022-KX642**

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

Product Information

Target Protein

HLA-A

Target Protein Species

Human

Host Cell Type

A431

Target Classification

HLA

Target Family

HLA Family

Target Research Area

Ocular Research

Related Diseases

Severe Cutaneous Adverse Reaction; Birdshot Chorioretinopathy

Product Properties

Stability

< 20 passages

Mycoplasma Testing

Negative

Biosafety Level

Level 1

Activity

Yes

Quantity

1x10⁶ cells

Form

Frozen cells

Culture Medium

DMEM, 10% FBS

Selective Antibiotic(s)

Regular antibiotics active against mycoplasmas, bacteria and fungi.

Handling Notes

Frozen cells should be thawed immediately upon receipt and grown according to handling procedure to ensure cell viability and proper assay performance.

Note: Do not freeze the cells upon receipt as it may result in irreversible damage to the cell line.

Disclaimer: We cannot guarantee cell viability if the cells are not thawed immediately upon receipt and grown according to handling procedure.

Incubation

37°C with 5% CO₂

Applications

WB

Application Notes

Cells were plated in a 384-well plate and incubated overnight at 37°C and 5% CO₂ to allow the cells to attach and grow. Cells were then stimulated with a control for high-throughput drugs screening and functional assays.

Use Restrictions

These cells are distributed for research use only.

Shipping

Dry ice

Storage

Liquid nitrogen

Target

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

HLA-A; HLAA; HLA class I histocompatibility antigen, A alpha chain; HLA class I histocompatibility antigen, A-1 alpha chain; MHC class I antigen HLA-A heavy chain; leukocyte antigen class I-A; Major histocompatibility complex, class I, A

Gene ID

[3105](#)

UniProt ID

[P04439](#)