10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

HLA-C Antibody (Center) Blocking Peptide

Synthetic peptide
Catalog # BP17872c

Specification

HLA-C Antibody (Center) Blocking Peptide - Product Information

Primary Accession P10321

HLA-C Antibody (Center) Blocking Peptide - Additional Information

Gene ID 3107

Other Names
HLA class I histocompatibility antigen, Cw-7 alpha chain, MHC class I antigen Cw*7, HLA-C, HLAC

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

HLA-C Antibody (Center) Blocking Peptide - Protein Information

Name HLA-C (HGNC:4933)

Synonyms HLAC

Function
Antigen-presenting major histocompatibility complex class I (MHCI) molecule with an important role in reproduction and antiviral immunity (PubMed:11172028, PubMed:20104487, PubMed:20439706, PubMed:20972337, PubMed:24091323, PubMed:28649982, PubMed:29312307). In complex with B2M/beta 2 microglobulin displays a restricted repertoire of self and viral peptides and acts as a dominant ligand for inhibitory and activating killer immunoglobulin receptors (KIRs) expressed on NK cells (PubMed:16141329). In an allogeneic setting, such as during pregnancy, mediates interaction of extravillous trophoblasts with KIR on uterine NK cells and regulate trophoblast invasion necessary for placentation and overall fetal growth (PubMed:20972337, PubMed:<a

href="http://www.uniprot.org/citations/24091323" target="_blank">24091323). During viral infection, may present viral peptides with low affinity for KIRs, impeding KIR-mediated inhibition through peptide antagonism and favoring lysis of infected cells (PubMed:20439706). Presents a restricted repertoire of viral peptides on antigen-presenting cells for recognition by alpha-beta T cell receptor (TCR) on HLA-C-restricted CD8-positive T cells, guiding antigen-specific T cell immune response to eliminate infected cells, particularly in chronic viral infection settings such as HIV-1 or CMV infection (PubMed:11172028, PubMed:20104487, PubMed:28649982). Both the peptide and the MHC molecule are recognized by TCR, the peptide is responsible for the fine specificity of antigen recognition and MHC residues account for the MHC restriction of T cells (By similarity). Typically presents intracellular peptide antigens of 9 amino acids that arise from cytosolic proteolysis via proteasome. Can bind different peptides containing allele-specific binding motifs, which are mainly defined by anchor residues at position 2 and 9. Preferentially displays peptides having a restricted repertoire of hydrophobic or aromatic amino acids (Phe, Ile, Leu, Met, Val and Tyr) at the C-terminal anchor (PubMed:25311805, PubMed:8265661).

Cellular Location
Cell membrane; Single-pass type I membrane protein. Endoplasmic reticulum membrane; Single-pass membrane protein

Tissue Location
Ubiquitous. Highly expressed in fetal extravillous trophoblasts in the decidua basalis (at protein level)

HLA-C Antibody (Center) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

HLA-C Antibody (Center) Blocking Peptide - Images

HLA-C Antibody (Center) Blocking Peptide - Background

HLA-C belongs to the HLA class I heavy chain paralogues.This class I molecule is a heterodimer consisting of a heavy chainand a light chain (beta-2 microglobulin). The heavy chain isanchored in the membrane. Class I molecules play a central role inthe immune system by presenting peptides derived from endoplasmicreticulum lumen. They are expressed in nearly all cells. The heavychain is approximately 45 kDa and its gene contains 8 exons. Exonone encodes the leader peptide, exons 2 and 3 encode the alpha1 andalpha2 domain, which both bind the peptide, exon 4 encodes thealpha3 domain, exon 5 encodes the transmembrane region, and exons 6and 7 encode the cytoplasmic tail. Polymorphisms within exon 2 andexon 3 are responsible for the peptide binding specificity of eachclass one molecule. Typing for these polymorphisms is routinelydone for bone marrow and kidney transplantation. Over one hundredHLA-C alleles have been described

HLA-C Antibody (Center) Blocking Peptide - References

Martin, M.P., et al. Immunogenetics 62 (11-12), 761-765 (2010) :Strange, A., et al. Nat. Genet. 42(11):985-990(2010)Noble, J.A., et al. Diabetes 59(11):2972-2979(2010)Honeyborne, I., et al. J. Virol. 84(21):11279-11288(2010)Healy, B.C., et al. Neurology 75(7):634-640(2010)