CD8A Cell Lysate – Tissue Lysate

PRODUCT OVERVIEW

Product Name	CD8 alpha (CD8A), Cell Lysate
Full Product Name	Human CD8 alpha HEK293 Overexpression Lysate
Product Gene Name	CD8A cell lysate
Product Synonym Names	Human CD8a/Lyt2 CHO Cell Lysate (WB positive control); CD8a molecule; Human CD8 Overexpression Lysate; Human CD8 alpha Overexpression Lysate; Human Leu-2 Overexpression Lysate; Human Leu2 Overexpression Lysate; Human MAL Overexpression Lysate; Human p32 Overexpression Lysate; Human p32 186910 Overexpression Lysate
Sequence	Met1-Asp18 2
Host	HEK293 Cells
Form/Format	1x Sample Buffer (1x modified RIPA buffer+1x SDS loading buffer). Modified RIPA Lysis Buffer: 50 mM Tris-HCl pH 7.4, 150 mM NaCl, 1mM EDTA, 1% Triton X-100, 0.1% SDS, 1% Sodium deoxycholate, 1mM PMSF.
Preparation and Storage	Store at 4 degree C for up to twelve months from date of receipt. After re-dissolution, aliquot and store at -80 degree C for up to twelve months. Avoid repeated freeze-thaw cycles. Samples are stable for up to twelve months from date of receipt.
Molecular Weight	30,214 Da
Sequence Positions	399aa
OMIM	186910
3D Structure	ModBase 3D Structure for P01732
Species	Human
Recommend Usage	1. Centrifuge the tube for a few seconds and ensure the pellet at the bottom of the tube.**2. Re-dissolve the pellet using 200uL pure water and boil for 2-5 min.** **3. Store the lyophilized cell lysate at 4 degree C. After re-dissolution, recommend to aliquot it into smaller quantities and store at -80 degree C.**
Sequence Construction	A DNA sequence encoding the human CD8A (NP_001759.3) (Met1-Asp182) was expressed with the Fc region of human IgG1 at the C-terminus.
Preparation Method	Cell lysate was prepared by homogenization in ice-cold modified RIPA Lysis Buffer with cocktail of protease inhibitors. Cell debris was removed by centrifugation. Protein concentration was determined by Bradford assay (protein assay, Microplate Standard assay). The cell lysate was boiled for 5 min in 1 x SDS loading buffer (50mM Tris-HCl pH 6.8, 12.5% glycerol, 1% sodium dodecylsulfate, 0.01% bromophenol blue) containing 5% b-mercaptoethanol, and lyophilized.
Applications Tested/Suitable for CD8A cell lysate	Western Blot (WB)
Application Notes for CD8A cell lysate	WB: Use at an assay dependent dilution.

Related Product Information for CD8A cell lysate	T-cell surface glycoprotein CD8 alpha chain, also known as CD8a, is a single-pass type I membrane protein. The CD8 glycoprotein is expressed by thymocytes, mature T cells and natural killer (NK) cells and has been implicated in the recognition of monomorphic determinants on major histocompatibility complex (MHC) Class I antigens, and in signal transduction during the course of T-cell activation. Both human and rodent CD8 antigens are comprised of two distinct polypeptide chains, alpha and beta. The Ig domains of CD8 alpha are involved in controlling the ability of CD8 to be expressed. Mutation of B-and F-strand cysteine residues in CD8 alpha reduced the ability of the protein to fold properly and, therefore, to be expressed. Defects in CD8A are a cause of familial CD8 deficiency. Familial CD8 deficiency is a novel autosomal recessive immunologic defect characterized by absence of CD8+ cells, leading to recurrent bacterial infections. This Human CD8 alpha overexpression lysate was created in HEK293 Cells and intented for use as a Western blot (WB) positive control. Purification of CD8 alpha protein from the overexpression lysate was verified.
Product References and Citations for CD8A cell lysate	References Devine, L. et al., 2000, J Immunol. 164 (2): 833-8. Arcaro, A. et al., 2000, J Immunol. 165 (4): 2068-76. Saha, K. et al., 2001, Nat Med. 7 (1): 65-72. Romero, P. et al., 2005, Eur J Immunol. 35 (11): 3092-4.
Other Notes	Small volumes of CD8A cell lysate vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for CD8A purchase	MBS8114275 is a cell lysate targeting CD8A. Also known as Human CD8 alpha HEK293 Overexpression Lysate. Host: HEK293 Cells.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CD8A. It may not necessarily be applicable to this product.

NCBI GI #	22902134
NCBI GeneID	925
NCBI Accession #	NP_001759.3
UniProt Primary Accession #	P01732
UniProt Secondary Accession #	Q13970; Q4ZG17; B4DT80; D6W5M8
UniProt Related Accession #	P01732
GenBank Nucleotide #	NM_001768.6
NCBI Official Full Name	T-cell surface glycoprotein CD8 alpha chain isoform 1
NCBI Official Synonym Full Names	CD8a molecule
NCBI Official Symbol	CD8A
NCBI Official Synonym Symbols	CD8; MAL; p32; Leu2
UniProt Protein Name	T-cell surface glycoprotein CD8 alpha chain
UniProt Synonym Protein Names	T-lymphocyte differentiation antigen T8/Leu-2
Protein Family	T-cell surface glycoprotein
UniProt Gene Name	CD8A
UniProt Synonym Gene Names	MAL
UniProt Entry Name	CD8A_HUMAN
NCBI Protein Information	T-cell surface glycoprotein CD8 alpha chain; T8 T-cell antigen; T cell co-receptor; OKT8 T-cell antigen; T-cell antigen Leu2; Leu2 T-lymphocyte antigen; CD8 antigen, alpha polypeptide (p32); T-lymphocyte differentiation antigen T8/Leu-2

NCBI Summary for CD8A	The CD8 antigen is a cell surface glycoprotein found on most cytotoxic T lymphocytes that mediates efficient cell-cell interactions within the immune system. The CD8 antigen acts as a coreceptor with the T-cell receptor on the T lymphocyte to recognize antigens displayed by an antigen presenting cell in the context of class I MHC molecules. The coreceptor functions as either a homodimer composed of two alpha chains or as a heterodimer composed of one alpha and one beta chain. Both alpha and beta chains share significant homology to immunoglobulin variable light chains. This gene encodes the CD8 alpha chain. Multiple transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Nov 2011]
Research Articles on CD8A	**1.** We suggest that unique set of interactions between CEACAM5, CD1d, and CD8 render CD1d more class I-like molecule, facilitating antigen presentation and activation of CD8(+)-suppressor regulatory T cells.
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