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

CD74 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1835a

Product Information

Application	WB, FC, ICC, E
Primary Accession	P04233
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	2D1B3
Isotype	IgG1
Calculated MW	33516
Description	The protein encoded by this gene associates with class II major histocompatibility complex (MHC) and is an important chaperone that regulates antigen presentation for immune response. It also serves as cell surface receptor for the cytokine macrophage migration inhibitory factor (MIF) which, when bound to the encoded protein, initiates survival pathways and cell proliferation. This protein also interacts with amyloid precursor protein (APP) and suppresses the production of amyloid beta (Abeta). Multiple alternatively spliced transcript variants encoding different isoforms have been identified.
Immunogen	Purified recombinant fragment of human CD74 (AA: 1-106) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide

Additional Information

Gene ID	972
Other Names	HLA class II histocompatibility antigen gamma chain, HLA-DR antigens-associated invariant chain, Ia antigen-associated invariant chain, Ii, p33, CD74, CD74, DHLAG
Dilution	WB~~1/500 - 1/2000 FC~~1/200 - 1/400 ICC~~N/A E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CD74 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CD74 (HGNC:1697)
Synonyms	DHLAG
Function	Plays a critical role in MHC class II antigen processing by stabilizing peptide-free class II alpha/beta heterodimers in a complex soon after their synthesis and directing transport of the complex from the endoplasmic reticulum to the endosomal/lysosomal system where the antigen processing and binding of antigenic peptides to MHC class II takes place. Serves as cell surface receptor for the cytokine MIF. [Isoform p41]: Stabilizes the conformation of mature CTSL by binding to its active site and serving as a chaperone to help maintain a pool of mature enzyme in endocytic compartments and extracellular space of antigen-presenting cells (APCs). Has antiviral activity by stymieing the endosomal entry of Ebola virus and coronaviruses, including SARS-CoV-2 (PubMed:32855215). Disrupts cathepsin-mediated Ebola virus glycoprotein processing, which prevents viral fusion and entry. This antiviral activity is specific to p41 isoform (PubMed:32855215).
Cellular Location	Cell membrane; Single-pass type II membrane protein. Endoplasmic reticulum membrane. Golgi apparatus, trans-Golgi network. Endosome. Lysosome. Secreted. Note=Transits through a number of intracellular compartments in the endocytic pathway. It can either undergo proteolysis or reach the cell membrane
Tissue Location	Detected in urine (at protein level). [Isoform p33]: In B cells, represents 70% of total CD74 expression.

Background

The protein encoded by this gene is a transcriptional activator. It can bind the consensus DNA sequence 5'-DHWATTGAYTWWD-3' on a variety of gene promoters such as those of HNF3B and TTR(By similarity). ;

References

1. Tumour Biol. 2012 Dec;33(6):2273-7. 2. World J Gastroenterol. 2012 May 14;18(18):2253-61.

Images

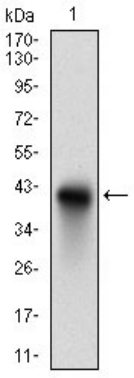
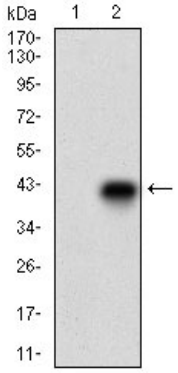


Figure 1: Western blot analysis using CD74 mAb against human CD74 recombinant protein. (Expected MW is 37.6 kDa)

Figure 2: Western blot analysis using CD74 mAb against HEK293 (1) and CD74 (AA: 1-106)-hIgGFc transfected HEK293 (2) cell lysate.



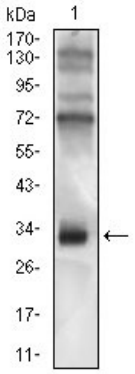


Figure 3: Western blot analysis using CD74 mouse mAb against Raji cell lysate.

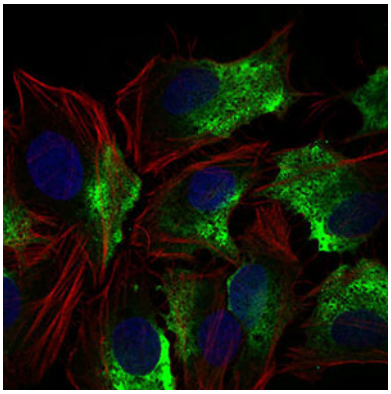


Figure 3: Immunofluorescence analysis of Hela cells using CD74 mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye.

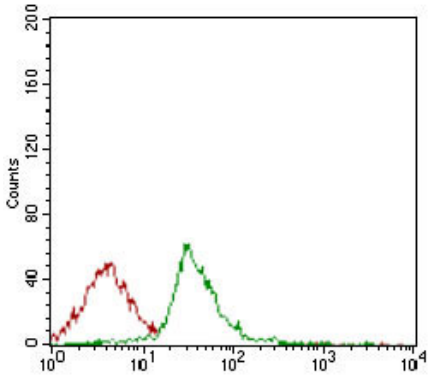


Figure 4: Flow cytometric analysis of Jurkat cells using CD74 mouse mAb (green) and negative control (red).

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