DATASHEET

CD74 Mouse Monoclonal Antibody(ARA685)

CAT. NO. ARA6412

KEY FEATURES

Target	CD74	**Source/Host**	Mouse
Reactivity	Human	**Clonality**	Monoclonal
Applications	IHC	**Storage**	at -20°C

BACKGROUND

HLA class II histocompatibility antigen gamma chain also known as HLA-DR antigens-associated invariant chain or CD74 (Cluster of Differentiation 74), is a protein that in humans is encoded by the CD74 gene. The invariant chain (Abbreviated Ii) is a polypeptide which plays a critical role in antigen presentation. It is involved in the formation and transport of MHC class II peptide complexes for the generation of CD4+ T cell responses. The cell surface form of the invariant chain is known as CD74. CD74 is a cell surface receptor for the cytokine macrophage migration inhibitory factor (MIF). The nascent MHC class II protein in the rough endoplasmic reticulum (RER) binds a segment of the invariant chain (Ii; a trimer) in order to shape the peptide-binding groove and prevent the formation of a closed conformation. The invariant chain also facilitates the export of MHC class II from the RER in a vesicle. The signal for endosomal targeting resides in the cytoplasmic tail of the invariant chain. This fuses with a late endosome containing the endocytosed antigen proteins (from the exogenous pathway). Binding to Ii ensures that no antigen peptides from the endogenous pathway meant for MHC class I molecules accidentally bind to the groove of MHC class II molecules. The Ii is then cleaved by cathepsin S (cathepsin L in cortical thymic epithelial cells), leaving only a small fragment called CLIP remaining bound to the groove of MHC class II molecules. The rest of the Ii is degraded. CLIP blocks peptide-binding until HLA-DM interacts with MHC II, releasing CLIP and allowing other peptides to bind. In some cases, CLIP dissociates without any further molecular interactions, but in other cases the binding to the MHC is more stable. The stable MHC class II + antigen complex is then presented on the cell surface. Without CLIP, MHC class II aggregates disassemble and/or denature in the endosomes, and proper antigen presentation is impaired.

APPLICATION

To ensure optimal assay performance, AREX recommends conducting reagent titration tailored to each testing system for optimal detection results.

IHC	1:100-1:300

*Results are sample-specific. Please refer to your local assay conditions and test parameters for reference.

OVERVIEW

Description	Mouse monoclonal antibody to CD74
Immunogen	KLH-conjugated synthetic peptide encompassing a sequence within human CD74. The exact sequence is proprietary.
Purification	The antibody was purified by immunogen affinity chromatography.
Clonality	Monoclonal
Form/Buffer	Mouse IgG1. Liquid in PBS containing 50% glycerol, 0.2% BSA and 0.01% sodium azide.
Gene Symbol	CD74
Alternative Names	DHLAG; HLA class II histocompatibility antigen gamma chain; HLA-DR antigens-associated invariant chain; Ia antigen-associated invariant chain; Ii; p33; CD74
Entrez Gene	972 (Human)
SwissProt	P04233 (Human)

*AREX continuously optimizes our products. Webpage content may not reflect the latest updates. For inquiries, please contact info@arexbio.com or your local distributor.

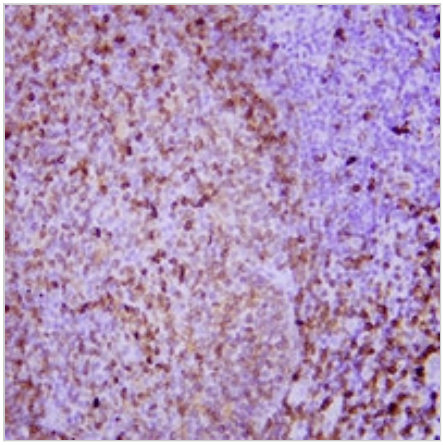
*Clone Number, Reactivity, Source/Host and Clonality can be found in the product name and Key Features section above.

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DATA



Immunohistochemical analysis of CD74 staining in human tonsil formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

STORAGE

Store at 4°C short term. For long term storage, store at -20°C, avoiding freeze/thaw cycles.

NOTE

For Research Use Only. Not for diagnostic, therapeutics, prophylactic or in vivo use.

More information: www.arexbio.com