

Monoclonal Antibody to CD74 - Purified

Alternate names:	DHLA2, HLA class II histocompatibility antigen gamma chain, HLA-DR antigens-associated invariant chain, Ia antigen-associated invariant chain, p33
Catalog No.:	TA309313
Quantity:	0.1 mg
Concentration:	1.0 mg/ml
Background:	CD74 is a non-polymorphic type II integral membrane protein. It has a short N-terminal cytoplasmic tail of 28 amino acids, followed by a single 24-aa transmembrane region and an approximately 150-aa luminal domain (1). The CD74 chain is thought to function mainly as an MHC class II chaperone, which promotes ER exit of MHC class II molecules, directs them to endocytic compartments, prevents peptide binding in the ER, and contributes to peptide editing in the MHC class II compartment. Class II MHC and li expression was believed to be restricted to classical antigen-presenting cells (APC); however, during inflammation, other cell types, including mucosal epithelial cells, have also been reported to express class II MHC molecules (2). Experiments that investigate cell-surface CD74 are complicated by the fact that CD74 remains on the cell surface for a very short time. The surface half-life of CD74 was calculated to be fewer than 10 minutes (3). CD74 however has also recently been shown to have a role as an accessory-signaling molecule because of its high-affinity binding to the pro-inflammatory cytokine, macrophage migration-inhibitory factor (MIF) (3). The restricted expression of CD74 by normal tissues and its very rapid internalization make CD74 an attractive therapeutic target for both cancer and immunologic diseases (4).
Uniprot ID:	P04233
NCBI:	NP_001020329.1
GeneID:	972
Host / Isotype:	Mouse / IgG1
Recommended Isotype Controls:	SM10P (for use in human samples), AM03095PU-N
Clone:	PIN.1
Immunogen:	Human CD74 invariant chain synthetic peptide conjugated to KLH
Format:	State: Liquid purified Ig fraction Buffer System: PBS, pH 7.2, 0.09 % azide and 50 % glycerol
Applications:	Western blot (1 µg/ml was sufficient for detection using colorimetric western blot analysis). Immunoprecipitation(5). Immunofluorescence(6). Flow cytometry. FACS (6).

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity:

Detects ~33-35 kDa protein doublet, corresponding to the molecular mass of the p33 and p35 forms of human CD74 on SDS-PAGE immunoblots.

Species: Human.

Other species not tested.

Storage:

Store the antibody at 2 - 8 °C up to one month or (in aliquots) at -20 °C for longer. Avoid repeated freezing and thawing.

Shelf life: one year from despatch.

General Readings:

1. Becker-Hermann, S., Arie, G., Medvedovsky H, Kerem A, and Shachar I. (2005) Mol Bio Cell. 16(11):5061-9.
2. Barrera CA., et al (2005) J Histochem Cytochem 53 (12): 1481-9.
3. Starlets D., et al. (2006) Blood. 107 (12): 4807-4816.
4. Burton JD., et al. (2004). Clin Cancer Res. 10(19): 6606-11.
5. Denzin L.K., Hammond, C. and Cresswell, P. (1996) J. Exp. Med. 184: 2153-2165.
6. Denzin L.K., Robbins N.F., Carboy-Newcomb C. and Cresswell P. (1994) Immunity 1: 595-606.

Pictures:

Western blot of CD74 from IP N87 lysates mixed with macrophage migration inhibitory factor (MIF).

