

Store at  
-20°C  
#77274

# CD74 (D5N3I) XP<sup>®</sup> Rabbit mAb



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**For Research Use Only. Not for Use in Diagnostic Procedures.**

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IHC-P, IF-IC, FC-FP	H Mk	Endogenous	20-25, 30-40	Rabbit IgG	#P04233	972

## Product Usage Information

### Application

Western Blotting  
Immunohistochemistry (Paraffin)  
Immunofluorescence (Immunocytochemistry)  
Flow Cytometry (Fixed/Permeabilized)

### Dilution

1:1000  
1:250 - 1:1000  
1:200  
1:400 - 1:1600

## Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #95154.

## Specificity/Sensitivity

CD74 (D5N3I) XP<sup>®</sup> Rabbit mAb recognizes endogenous levels of total CD74 protein.

## Source / Purification

Monoclonal antibody is produced by immunizing animals with recombinant human CD74 protein.

## Background

CD74, which is also known as the MHC Class II-associated invariant chain (Ii), is a type II transmembrane glycoprotein that plays a critical role in the antigen presentation process as a chaperone of MHC Class II proteins. It is expressed at high levels on B cells and to a lesser extent on numerous antigen presenting cell (APC) types including dendritic cells, Langerhans cells, monocytes, and macrophages as well as non-traditional APCs such as epithelial cells (1,2). CD74 was initially identified for its ability to regulate the folding and intracellular trafficking of newly synthesized MHC Class II molecules. Following expression, CD74 self-assembles as a trimer that serves as a scaffold for the assembly of MHC Class II molecules. Through this interaction, CD74 blocks the peptide binding cleft of MHC Class II molecules and prevents their premature association with endogenous polypeptides (3). Binding to CD74 also facilitates the translocation of MHC Class II molecules from the endoplasmic reticulum to the endocytic compartments during antigen presentation (4). In addition to its role as an MHC Class II chaperone, CD74 is also the receptor for macrophage migration-inhibitory factor (MIF). Binding to CD74 and its co-receptor, CD44, has been shown to induce the activation of the NFκB and ERK pathways to promote cell proliferation and survival signals (5,6). Recent studies have identified CXCR2 and CXCR4 as co-receptors for CD74 where MIF binding to CD74 complexes contributes to MIF-mediated monocyte chemotaxis and the induction of Akt signaling, respectively (7,8). Increased CD74 surface expression has been reported under inflammatory conditions and in certain types of cancer cells implying a potential role in tumorigenesis (9).

## Background References

1. Barrera, C.A. et al. (2005) *J Histochem Cytochem* 53, 1481-9.
2. Lotteau, V. et al. (1990) *Nature* 348, 600-5.
3. Stockinger, B. et al. (1989) *Cell* 56, 683-9.
4. Bakke, O. and Dobberstein, B. (1990) *Cell* 63, 707-16.
5. Shi, X. et al. (2006) *Immunity* 25, 595-606.
6. Starlets, D. et al. (2006) *Blood* 107, 4807-16.
7. Bernhagen, J. et al. (2007) *Nat Med* 13, 587-96.
8. Schwartz, V. et al. (2009) *FEBS Lett* 583, 2749-57.
9. Borghese, F. and Clanchy, F.I. (2011) *Expert Opin Ther Targets* 15, 237-51.

## Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

## Western Blot Buffer

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

## Applications Key

**W:** Western Blotting **IHC-P:** Immunohistochemistry (Paraffin) **IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

## Cross-Reactivity Key

**H:** Human **Mk:** Monkey

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