

# Product Information



## CD74 Monoclonal Antibody (Clone PIN1)

Catalog No. 10011432

<b>Contents:</b>	This vial contains mouse IgG at a concentration of 1 mg/ml in PBS, pH 7.2, containing 0.09% sodium azide and 50% glycerol.
<b>Antigen:</b>	Purified recombinant CD74 protein
<b>Host:</b>	Mouse, clone PIN1
<b>Isoype:</b>	IgG <sub>1</sub>
<b>Cross Reactivity:</b>	(+) human CD74. Detects a ~33-35 kDa protein doublet, corresponding to the molecular mass of p33 and p35 forms of CD74 on SDS-PAGE immunoblots.
<b>Stability:</b>	≥1 year at -20°C
<b>Application:</b>	Western blot (WB), immunoprecipitation, immunocytochemistry, and flow cytometry. <sup>1,2</sup> The recommended starting concentration for WB is 1 µg/ml. Optimal working dilutions for other applications should be determined empirically.

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 amino acid transmembrane region and an approximately 150 amino acid luminal domain.<sup>3</sup> The CD74 chain is thought to function mainly as a major histocompatibility complex (MHC) class II chaperone, which promotes endoplasmic reticulum (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 invariant chain 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.<sup>4</sup> 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.<sup>5</sup> CD74 however has also recently been shown to have a role as an accessory-signalling molecule because of its macrophage migration-inhibitory factor (MIF).<sup>5</sup> 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.<sup>6</sup>

### References

1. Denzin, L.K., Hammond, C., and Cresswell, P. HLA-DM interactions with intermediates in HLA-DR maturation and a role for HLA-DM in stabilizing empty HLA-DR molecules. *J. Exp. Med.* **184**, 2153-2165 (1996).
2. Denzin, L.K., Robbins, N.F., Carboy-Newcomb, C., *et al.* Assembly and intracellular transport of HLA-DM and correction of the class II antigen-processing defect in T2 cells. *Immunity* **1**(7), 595-606 (1994).
3. Becker-Herman, S., Arie, G., Medvedovsky, H., *et al.* CD74 is a member of the regulated intramembrane proteolysis-processed protein family. *Molecular Biology of the Cell* **16**, 5061-5069 (2005).
4. Barrera, C.A., Beswick, E.J., Sierra, J.C., *et al.* Polarized expression of CD74 by gastric epithelial cells. *J. Histochem. Cytochem.* **53**(12), 1481-1489 (2005).
5. Starlets, D., Gore, Y., Binsky, I., *et al.* Cell-surface CD74 initiates a signaling cascade leading to cell proliferation and survival. *Blood* **107**, 4807-4816 (2006).
6. Burton, J.D., Ely, S., Reddy, P.K., *et al.* CD74 is expressed by multiple myeloma and is a promising target for therapy. *Clinical Cancer Research* **10**, 6606-6611 (2004).

### Related Products

CD36 Polyclonal Antibody - Cat. No. 100011 • CD36 Monoclonal Antibody - Cat. No. 188150 • CD36 Blocking Peptide - Cat. No. 300011 • CD95 (human) cDNA Probe - Cat. No. 660616 • CD45 Monoclonal Antibody (Clone BRA-55) - Cat. No. 10004597 • CD4 Monoclonal Antibody (Clone RIV7) - Cat. No. 10004599 • CD95 Monoclonal Antibody (Clone IPO-4) - Cat. No. 10004604 • CD8 Monoclonal Antibody (Clone RIV11) - Cat. No. 10004715 • CD19 Monoclonal Antibody (Clone CB19) - Cat. No. 10004716 • CD37 Monoclonal Antibody (Clone IPO-24) - Cat. No. 10004718 • CD150 Monoclonal Antibody (Clone IPO-3) - Cat. No. 10004804 • CD34 Monoclonal Antibody (Clone ICO-115) - Cat. No. 10004835 • CD27 Monoclonal Antibody (Clone 203.6) - Cat. No. 10004837 • CD36 Monoclonal Antibody FITC - Cat. No. 10009870 • CD4 Monoclonal FITC Antibody - Cat. No. 10010530

**WARNING: THIS PRODUCT IS NOT FOR HUMAN OR ANIMAL DISEASE DIAGNOSIS OR THERAPEUTIC DRUG USE.**

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