PRODUCT INFORMATION

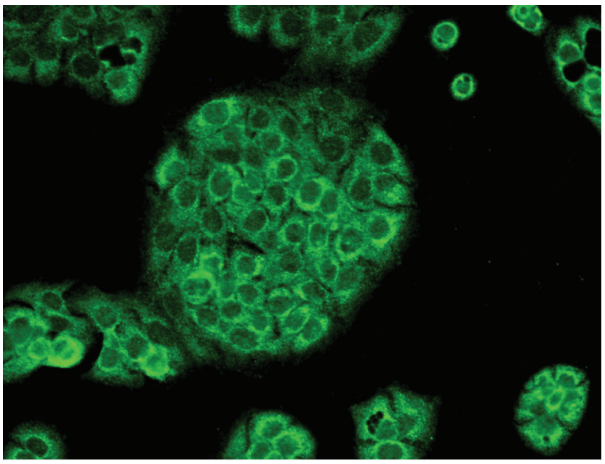
CD74 Monoclonal Antibody (Clone PIN1)

Item No. 10011432

Overview and Properties

Contents:	This vial contains 25 or 100 µg of protein G-affinity purified monoclonal antibody.
Immunogen:	Human CD74 invariant chain synthetic peptide
Cross Reactivity:	(+) Human CD74
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 0.09% sodium azide
Concentration:	1 mg/ml
Clone:	PIN.1
Host:	Mouse
Isotype:	IgG1
Applications:	Flow Cytometry (FC), Immunohistochemistry (IHC), Immunocytochemistry (ICC), Immunofluorescence (IF), Immunoprecipitation (IP), and Western blot (WB); the recommended starting dilution is 1:100 for IHC, 1:50 for ICC and IF, and 1:1,000 for WB. FC, IP, and other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

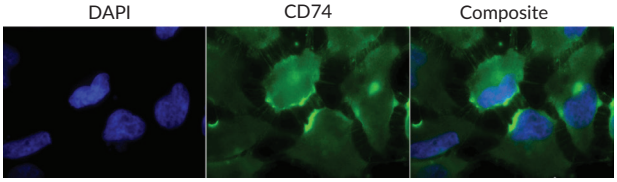
Images



Immunohistochemical/Immunofluorescent labeling of human HaCaT cells. Cells were fixed with 100% methanol for 10 minutes at -20°C, and incubated with CD74 Monoclonal Antibody (Clone PIN1) at a dilution of 1:100 for one hour at room temperature. Then cells were incubated with FITC Goat Anti-Mouse (green) at a dilution of 1:50 for one hour at room temperature. Positive staining was localized to the cytoplasm.

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION



Immunohistochemical/Immunofluorescent labeling of human HeLa cells. Cells were fixed with 2% formaldehyde for 20 minutes at room temperature, and incubated with CD74 Monoclonal Antibody (Clone PIN1) at a dilution of 1:100 for 12 hours at 4°C. Then cells were incubated with FITC Goat Anti-Mouse (green) at a dilution of 1:200 for two hours at room temperature and counterstained with DAPI (blue) at a dilution of 1:40,000 for two hours at room temperature. Positive staining was localized to the endoplasmic reticulum, golgi apparatus, endosome, and lysome.

Description

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 lumenal domain.[1] 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.[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-signalling molecule because of its 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] Cayman's CD74 Monoclonal Antibody (Clone PIN1) can be used for flow cytometry (FC), immunohistochemistry (IHC), immunocytochemistry (ICC), immunofluorescence (IF), immunoprecipitation (IP), and Western blot (WB) applications.

References

1. Becker-Herman, S., Arie, G., Medvedovsky, H., *et al*. CD74 is a member of the regulated intramembrane proteolysis-processed protein family. *Mol. Biol. Cell* **16(11)**, 5061-5069 (2005).
2. 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).
3. Starlets, D., Gore, Y., Binsky, I., et al. Cell-surface CD74 initiates a signaling cascade leading to cell proliferation and survival. Blood 107(12), 4807-4816 (2006).
4. Burton, J.D., Ely, S., Reddy, P.K., *et al*. CD74 is expressed by multiple myeloma and is a promising target for therapy. *Clin. Cancer Res.* **10(19)**, 6606-6611 (2004).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM