

Anti-CD74, PIN1

Catalog# SMC-116C/D

Size: 25/100µl

Product	Mouse Anti-CD74 antibody; monoclonal
Clone	PIN 1
Immunogen	Human CD74 invariant chain synthetic peptide conjugated to KLH.
Host and Subclass	Mouse monoclonal IgG1
Cited Applications	WB, IP(5), IC(6), Flow cytometry, FACS (6)
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 cross-reactivity	Human
Format	Mouse immunoglobulin in PBS, pH 7.2, 0.09% azide and 50% glycerol
Concentration and working dilution	1.0mg/mL: 1 µg/mL was sufficient for detection using colorimetric western blot analysis
Storage and stability	-20°C; 1 year+; shipped on cold packs or ambient

Scientific 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 lumenal 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 Ii 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).

Selected References

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.

Certificate of Analysis

1µg/mL was sufficient for detection of SMC-116 in 20µg of PALA cell lysates by colorimetric immunolot analysis using goat anti-mouse IgG: AP as the secondary antibody.

Material Safety Data Sheet

Anti-CD74 (Monoclonal Antibody) SMC-116

This product is for *in vitro* research use only and is not intended for use in humans or animals

The below information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. StressMarq shall not be held liable for any damage resulting from handling or from contact with the above product. See the Technical Specification, Packing Slip, Invoice, and Product Catalogue for additional terms and conditions of sale.

Hazardous Ingredients

The physical, chemical and toxicological properties of these components have not been fully investigated. It is recommended that all laboratory personnel follow standard laboratory safety procedures when handling this product. Safety procedures should include wearing OSHA approved safety glasses, gloves and protective clothing. Direct physical contact with this product should be avoided.

<u>Known Hazardous Components</u>	<u>CAS Number</u>	<u>Percent</u>
Sodium Azide	26628-22-8	0.09

Physical Data

This product consists of mouse immunoglobulin in PBS, 0.09% sodium azide in 50% glycerol shipped on gel packs. The physical properties of this product have not been investigated thoroughly.

Fire and Explosion Hazard and Reactivity Data

NOT APPLICABLE

Toxicological Properties

May be harmful by inhalation, ingestion, or skin absorption. The toxicological properties of this product have not been investigated thoroughly. Exercise due caution.

Preventative Measures

Wear chemical safety goggles and compatible chemical-resistant gloves. Avoid inhalation, contact with eyes, skin or clothing.

Spill and Leak Procedures

Observe all federal, state and local environmental regulations.

- Wear protective equipment.
- Absorb on sand or vermiculite and place in closed containers for disposal.
- Dispose or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

First Aid Measures

- If swallowed, wash out mouth with water, provided person is conscious. Call a physician.
- In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes.
- If a rash or other irritation develops, call a physician.
- If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.
- In case of eye contact, flush with copious amounts of water for at least 15 minutes while separating the eyelids with fingers. Call a physician.