SANTA CRUZ BIOTECHNOLOGY, INC.

CD74 (PIN.1): sc-47742

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The human histocompatibility leukocyte antigen (HLA) class II-associated invariant chain is composed of at least four polypeptides. One of these polypeptide chains is expressed as a membrane-bound subunit and has been designated CD74. The loading of peptide onto the class II MHC protein (MHC II) appears to be regulated by CD74, which associates with MHC II during its migration to the endosomal compartment, where class II binds peptide. CD74 is expressed by cells of both T lymphocyte and B lymphocyte lineages. In fact, CD74 is broadly expressed in normal B lymphocytes, regardless of their histocompatibility leukocyte antigen (HLA) phenotype, while a subset of peripheral T lymphocytes that are MHC II negative do not express CD74.

CHROMOSOMAL LOCATION

Genetic locus: CD74 (human) mapping to 5q32; Cd74 (mouse) mapping to 18 E1.

SOURCE

CD74 (PIN.1) is a mouse monoclonal antibody raised against amino acids 12-28 of CD74 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD74 (PIN.1) is available conjugated to either phycoerythrin (sc-47742 PE) or fluorescein (sc-47742 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

CD74 (PIN.1) is recommended for detection of the epitope in a region of the cytoplasmic tail of CD74 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for CD74 siRNA (h): sc-35023, CD74 siRNA (m): sc-35024, CD74 shRNA Plasmid (h): sc-35023-SH, CD74 shRNA Plasmid (m): sc-35024-SH, CD74 shRNA (h) Lentiviral Particles: sc-35023-V and CD74 shRNA (m) Lentiviral Particles: sc-35024-V.

Molecular Weight of CD74 isoforms: 31-45 kDa.

Positive Controls: Raji whole cell lysate: sc-364236, Ramos cell lysate: sc-2216 or HeLa whole cell lysate: sc-2200.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

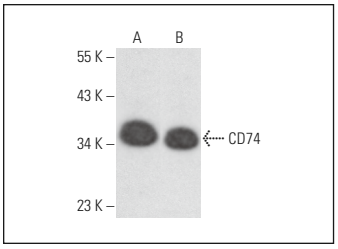
PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

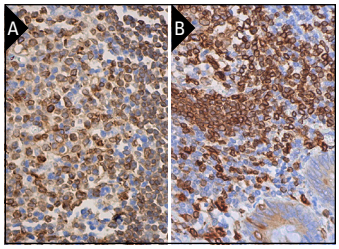
RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



CD74 (PIN.1): sc-47742. Western blot analysis of CD74 expression in Raji (**A**) and Ramos (**B**) whole cell lysates.



CD74 (PIN.1): sc-47742. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing membrane staining of cells in germinal center and cells in non-germinal center (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing membrane staining of lymphoid cells (**B**).

SELECT PRODUCT CITATIONS

1. Podolin, P.L., et al. 2008. Inhibition of invariant chain processing, antigen-induced proliferative responses, and the development of collagen-induced arthritis and experimental autoimmune encephalomyelitis by a small molecule cysteine protease inhibitor. J. Immunol. 180: 7989-8003.
2. Schönefuss, A., et al. 2010. Upregulation of cathepsin S in psoriatic keratinocytes. Exp. Dermatol. 19: e80-8.
3. Su, F., et al. 2013. Establishment and evaluation of a stable cattle type II alveolar epithelial cell line. PLoS ONE 8: e76036.
4. Assis, D.N., et al. 2014. The role of macrophage migration inhibitory factor in autoimmune liver disease. Hepatology 59: 580-591.
5. Uhlenbrock, F., et al. 2015. A conserved WW domain-like motif regulates invariant chain-dependent cell-surface transport of the NKG2D ligand ULBP2. Mol. Immunol. 66: 418-427.
6. Yamashita, Y., et al. 2017. HLA-DP^{84Gly} constitutively presents endogenous peptides generated by the class I antigen processing pathway. Nat. Commun. 8: 15244.
7. Lee, D.F., et al. 2018. Isolation and characterisation of alveolar type II pneumocytes from adult bovine lung. Sci. Rep. 8: 11927.
8. Lee, D.F. and Chambers, M.A. 2019. Isolation of alveolar type II cells from adult bovine lung. Curr. Protoc. Toxicol. 80: e71.
9. Zhang, L., et al. 2022. Myostatin/HIF2α-mediated ferroptosis is involved in skeletal muscle dysfunction in chronic obstructive pulmonary disease. Int. J. Chron. Obstruct. Pulmon. Dis. 17: 2383-2399.

CONJUGATES

See **CD74 (LN-2): sc-6262** for CD74 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.