SANTA CRUZ BIOTECHNOLOGY, INC.

CD74 (By2): sc-20062

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 (By2) is a mouse monoclonal antibody raised against B-cell lymphoma cells.

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 (By2) is available conjugated to either phycoerythrin (sc-20062 PE), fluorescein (sc-20062 FITC) or Alexa Fluor® 488 (sc-20062 AF488) or Alexa Fluor® 647 (sc-20062 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

CD74 (By2) is recommended for detection of CD74 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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: U-698-M whole cell lysate: sc-364799, GA-10 whole cell lysate: sc-364230 or Daudi cell lysate: sc-2415.

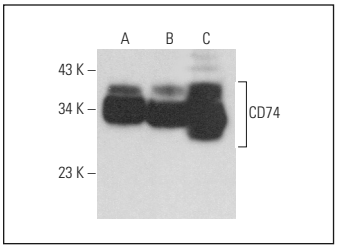
STORAGE

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

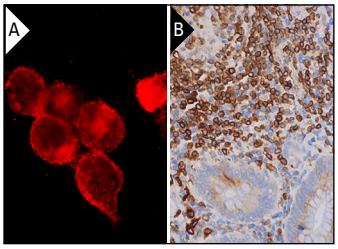
RESEARCH USE

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

DATA



CD74 (By2): sc-20062. Western blot analysis of CD74 expression in U-698-M (**A**), Daudi (**B**) and GA-10 (**C**) whole cell lysates.



CD74 (By2): sc-20062. Immunofluorescence staining of methanol-fixed BJAB cells showing membrane staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing membrane staining of lymphoid cells (**B**).

SELECT PRODUCT CITATIONS

1. Zheng, C., et al. 2006. Gene expression profiling of CD34+ cells identifies a molecular signature of chronic myeloid leukemia blast crisis. Leukemia 20: 1028-1034.
2. Burm, S.M., et al. 2016. Expression of IL-1β in rhesus EAE and MS lesions is mainly induced in the CNS itself. J. Neuroinflammation 13: 138.
3. Velásquez, L.N., et al. 2017. *Brucella abortus* down-regulates MHC class II by the IL-6-dependent inhibition of CIITA through the downmodulation of IFN regulatory factor-1 (IRF-1). J. Leukoc. Biol. 101: 759-773.
4. Ssadh, H.A., et al. 2017. Measurements of heterotypic associations between cluster of differentiation CD74 and CD44 in human breast cancer-derived cells. Oncotarget 8: 92143-92156.
5. Al Abdulmonem, W., et al. 2020. Bacterial lipopolysaccharide induces the intracellular expression of trophoblastic specific CD74 isoform in human first trimester trophoblast cells: correlation with unsuccessful early pregnancy. J. Reprod. Immunol. 141: 103152.
6. Armstrong, D.A., et al. 2020. Extracellular vesicles from *Pseudomonas aeruginosa* suppress MHC-related molecules in human lung macrophages. Immunohorizons 4: 508-519.
7. Wurster, K.D., et al. 2021. Aberrant expression of and cell death induction by engagement of the MHC-II chaperone CD74 in anaplastic large cell lymphoma (ALCL). Cancers 13: 5012.

PROTOCOLS

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