

# CD72 (N-15): sc-31227

## BACKGROUND

CD5 has been identified as a transmembrane glycoprotein that is expressed on 70% of normal peripheral blood lymphocytes and on virtually all T lymphocytes in thymus and peripheral blood. Activation of T cells through the T cell receptor (TCR) results in tyrosine phosphorylation of CD5, and the absence of CD5 renders T cells hyper-responsive to TCR-mediated activation. CD5 associates with the TCR/CD3  $\zeta$  chain, and with the Src family kinase, Lck p56. The C-type lectin superfamily member CD72 is a cell surface negative regulator of B cell activation from the pro-B through the mature B cell stage. CD72 serves as a receptor for CD5. The ability of lymphocytes to respond to antigenic or mitogenic stimulation utilizes both positive and negative regulatory proteins that influence the threshold for responsiveness. The human CD72 gene maps to chromosome 9p13.3 and encodes a transmembrane glycoprotein that contains an immunoreceptor tyrosine-based inhibition motif (ITIM). Upon tyrosine phosphorylation, the CD72 ITIM recruits SH2-containing phosphatases such as SHP-1, resulting in downregulation of cell activation. CD72<sup>-/-</sup> mice contain hyperproliferative B cells.

## REFERENCES

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- Wu, Y., et al. 1998. The B cell transmembrane protein CD72 binds to and is an *in vivo* substrate of the protein tyrosine phosphatase SHP-1. *Curr. Biol.* 8: 1009-1017.
- Pan, C., et al. 1999. CD72-deficient mice reveal nonredundant roles of CD72 in B cell development and activation. *Immunity* 11: 495-506.
- Parnes, J.R., et al. 2000. CD72, a negative regulator of B cell responsiveness. *Immunol. Rev.* 176: 75-85.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 107272. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Wu, H.J., et al. 2002. Positive and negative roles of CD72 in B cell function. *Immunol. Res.* 25: 155-166.

## CHROMOSOMAL LOCATION

Genetic locus: CD72 (human) mapping to 9p13.3; Cd72 (mouse) mapping to 4 B1.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.

## SOURCE

CD72 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal cytoplasmic domain of CD72 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-31227 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

CD72 (N-15) is recommended for detection of CD72 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); may cross-react with CLL-1, to a lesser extent.

CD72 (N-15) is also recommended for detection of CD72 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for CD72 siRNA (h): sc-37250, CD72 siRNA (m): sc-35022, CD72 shRNA Plasmid (h): sc-37250-SH, CD72 shRNA Plasmid (m): sc-35022-SH, CD72 shRNA (h) Lentiviral Particles: sc-37250-V and CD72 shRNA (m) Lentiviral Particles: sc-35022-V.

Molecular Weight of CD72: 45 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, NIH/3T3 whole cell lysate: sc-2210 or WEHI-231 whole cell lysate sc-2213.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

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