SANTA CRUZ BIOTECHNOLOGY, INC.

CYTIP (E-12): sc-390680

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The Power to Question

BACKGROUND

CYTIP, also known as PSCDBP (pleckstrin homology, Sec7 and coiled-coil domains, binding protein), CASP or CYBR, is a cytoplasmic protein that is involved in lymphocytic cell adhesion. Expressed primarily in hematopoetic cells, CYTIP regulates the activity of cytohesin-1 (an integrin-activating protein involved in cell adhesion) by mediating its recruitment to the leukocyte membrane. Through its ability to bind cytohesin-1, CYTIP is able to sequester it to the cytoplasm, thereby preventing cytohesin-1 translocation to lymphocytes and interrupting the flow of information in the cell adhesion pathway. CYTIP can be recruited from the cytoplasm to the membrane by leukocyte integrins which interact with CYTIP through its PDZ domain. After membrane translocation, CYTIP can be re-located to the cytoplasm via exposure to a phorbol ester. Additionally, CYTIP associates with SNX27 (sorting nexin 27) and helps to coordinate trafficking and signaling complexes. Up-regulation of CYTIP is observed in maturing dendritic cells, suggesting a possible role in developmentally-controlled cell adhesion.

REFERENCES

1. Kim, H.S. 1999. Assignment of the human B3-1 gene (PSCDBP) to chromosome 2 band q11.2 by radiation hybrid mapping. Cytogenet. Cell Genet. 84: 95-95.
2. Tang, P., et al. 2002. Cybr, a cytokine-inducible protein that binds cytohesin-1 and regulates its activity. Proc. Natl. Acad. Sci. USA 99: 2625-2629.
3. Boehm, T., et al. 2003. Attenuation of cell adhesion in lymphocytes is regulated by CYTIP, a protein which mediates signal complex sequestration. EMBO J. 22: 1014-1024.
4. Hofer, S., et al. 2006. Dendritic cells regulate T-cell deattachment through the integrin-interacting protein CYTIP. Blood 107: 1003-1009.
5. Chen, Q., et al. 2006. Cytohesin binder and regulator augments T cell receptor-induced nuclear factor of activated T cells. AP-1 activation through regulation of the JNK pathway. J. Biol. Chem. 281: 19985-19994.
6. Watford, W.T., et al. 2006. Cytohesin binder and regulator (cybr) is not essential for T- and dendritic-cell activation and differentiation. Mol. Cell. Biol. 26: 6623-6632.
7. MacNeil, A.J., et al. 2007. Sorting nexin 27 interacts with the Cytohesin associated scaffolding protein (CASP) in lymphocytes. Biochem. Biophys. Res. Commun. 359: 848-853.

CHROMOSOMAL LOCATION

Genetic locus: Cytip (mouse) mapping to 2 C1.1.

SOURCE

CYTIP (E-12) is a mouse monoclonal antibody raised against amino acids 183-345 mapping near the C-terminus of CYTIP of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CYTIP (E-12) is recommended for detection of CYTIP of mouse and rat origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CYTIP siRNA (m): sc-62187, CYTIP shRNA Plasmid (m): sc-62187-SH and CYTIP shRNA (m) Lentiviral Particles: sc-62187-V.

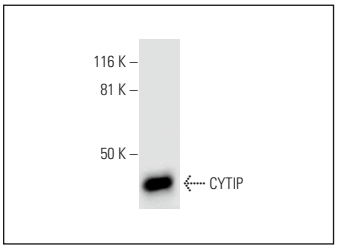
Molecular Weight of CYTIP: 42 kDa.

Positive Controls: SP2/0 whole cell lysate: sc-364795.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



CYTIP (E-12): sc-390680. Western blot analysis of CYTIP expression in SP2/0 whole cell lysate.

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.

PROTOCOLS

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