SANTA CRUZ BIOTECHNOLOGY, INC.

CIB (5A1H7E12): sc-65998

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Platelets regulate the function of Integrin α2b/β3 (GPIIb/IIIa), the platelet Fibrinogen receptor, which is involved in the binding of proteins to integrin cytoplasmic domains. A novel protein, CIB, for calcium- and integrin-binding protein (also designated as Kip for kinase interacting protein, SIP2-28 and DNA-PK$_{cs}$ interacting protein), binds specifically at the cytoplasmic domain of α2b by a number of positively charged residues in its binding site. Binding of CIB to the α2b is affected by fluctuations in the intracellular calcium concentration. In aggregated platelets, endogenous CIB and α2b/β3 translocate to the Triton X-100-insoluble cytoskeleton, demonstrating that the cellular localization of CIB is regulated. CIB also binds to DNA-PK$_{cs}$, which is a nuclear protein serine/threonine kinase that plays a role in the DNA repair and recombination process of lymphoid development. Fnk also binds to the CIB, suggesting that CIB may be a regulatory subunit of polo-like kinases. CIB shows significant homology to calcineurin B and calmodulin, and its mRNA levels are ubiquitously expressed in various human tissues.

REFERENCES

1. Naik, U.P., et al. 1997. Identification of a novel calcium-binding protein that interacts with the Integrin α2b cytoplasmic domain. J. Biol. Chem. 272: 4651-4654.
2. Wu, X. and Lieber, M.R. 1997. Interaction between DNA-dependent protein kinase and a novel protein, Kip. Mutat. Res. 385: 13-20.
3. Shock, D.D., et al. 1999. Calcium-dependent properties of CIB binding to the Integrin α2b cytoplasmic domain and translocation to the platelet cytoskeleton. Biochem. J. 342: 729-735.
4. Seki, N., et al. 1999. Structure, expression profile, and chromosomal location of an isolog of DNA-PK$_{cs}$ interacting protein (Kip) gene. Biochim. Biophys. Acta 1444: 143-147.
5. Hwang, P.M. and Vogel H.J. 2000. Structures of the platelet calcium- and integrin-binding protein and the Integrin α2b cytoplasmic domain suggest a mechanism for calcium-regulated recognition; homology modeling and NMR studies. J. Mol. Recognit. 13: 83-92.
6. Hattori, A., et al. 2000. Genomic structure of mouse and human genes for DNA-PK$_{cs}$ interacting protein (Kip). DNA Seq. 10: 415-418.
7. Holtrich, U., et al. 2000. Adhesion induced expression of the serine/threonine kinase Fnk in human macrophages. Oncogene 19: 4832-4839.

CHROMOSOMAL LOCATION

Genetic locus: CIB1 (human) mapping to 15q26.1

SOURCE

CIB (5A1H7E12) is a mouse monoclonal antibody raised against purified truncated recombinant CIB of human origin.

PRODUCT

Each vial contains 200 µg IgG$_1$ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

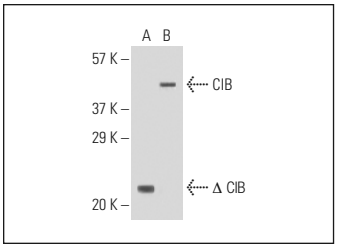
CIB (5A1H7E12) is recommended for detection of CIB of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for CIB siRNA (h): sc-43271, CIB shRNA Plasmid (h): sc-43271-SH and CIB shRNA (h) Lentiviral Particles: sc-43271-V.

Molecular Weight of CIB: 24 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201 or human platelet extract: sc-363773.

DATA



CIB (5A1H7E12): sc-65998. Western blot analysis of truncated human recombinant CIB protein (**A**) and CIB expression in A-431 whole cell lysate (**B**).

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.