

# CIB (5A1H7E12): sc-65998

## BACKGROUND

Platelets regulate the function of Integrin  $\alpha 2b/\beta 3$  (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<sub>cs</sub> interacting protein), binds specifically at the cytoplasmic domain of  $\alpha 2b$  by a number of positively charged residues in its binding site. Binding of CIB to the  $\alpha 2b$  is affected by fluctuations in the intracellular calcium concentration. In aggregated platelets, endogenous CIB and  $\alpha 2b/\beta 3$  translocate to the Triton X-100-insoluble cytoskeleton, demonstrating that the cellular localization of CIB is regulated. CIB also binds to DNA-PK<sub>cs</sub>, 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

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- Wu, X. and Lieber, M.R. 1997. Interaction between DNA-dependent protein kinase and a novel protein, Kip. *Mutat. Res.* 385: 13-20.
- Shock, D.D., et al. 1999. Calcium-dependent properties of CIB binding to the Integrin  $\alpha 2b$  cytoplasmic domain and translocation to the platelet cytoskeleton. *Biochem. J.* 342: 729-735.
- Seki, N., et al. 1999. Structure, expression profile and chromosomal location of an isolog of DNA-PKcs interacting protein (Kip) gene. *Biochim. Biophys. Acta* 1444: 143-147.
- Hwang, P.M. and Vogel, H.J. 2000. Structures of the platelet calcium- and integrin-binding protein and the Integrin  $\alpha 2b$  cytoplasmic domain suggest a mechanism for calcium-regulated recognition; homology modeling and NMR studies. *J. Mol. Recognit.* 13: 83-92.
- Hattori, A., et al. 2000. Genomic structure of mouse and human genes for DNA-PK<sub>cs</sub> interacting protein (Kip). *DNA Seq.* 10: 415-418.
- 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  $\mu$ g IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

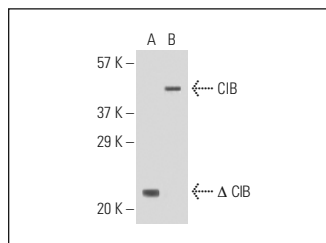
CIB (5A1H7E12) is recommended for detection of CIB of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) 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](http://www.scbt.com) for detailed protocols and support products.