SANTA CRUZ BIOTECHNOLOGY, INC.

Cbp (PAG-C1): sc-51517

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The Power to Question

BACKGROUND

The Src family of protein tyrosine kinases (Src-PTKs) is important in the regulation of growth and differentiation of eukaryotic cells. The activity of Src-PTKs in cells of different types is negatively controlled by Csk. Csk binding protein (Cbp, also designated phosphoprotein associated with glycosphingo-lipid-enriched microdomains (GEMs) or PAG) is an ubiquitously expressed transmembrane phosphoprotein that binds specifically to the SH2 domain of Csk. Cbp is involved in the membrane localization of Csk and in Csk-mediated inhibition of c-Src. In the plasma membrane, Cbp is exclusively localized in the GM1 ganglioside-enriched detergent-insoluble membrane domain, which is important in receptor-mediated signaling. Cbp is a component of the regulatory mechanism controlling the activity of membrane-associated Src-PTKs.

REFERENCES

1. Simons, K., et al. 1997. Functional rafts in cell membranes. Nature 387: 569-572.
2. Brown, D.A., et al. 1998. Functions of lipid rafts in biological membranes. Annu. Rev. Cell Dev. Biol. 14: 111-136.
3. Anderson, R.G. 1998. The caveolae membrane system. Annu. Rev. Biochem. 67: 199-225.
4. Xavier, R., et al. 1998. Membrane compartmentation is required for efficient T cell activation. Immunity 8: 723-732.
5. Montixi, C., et al. 1998. Engagement of T cell receptor triggers its recruitment to low-density detergent-insoluble membrane domains. EMBO J. 17: 5334-5348.
6. Brdicka, T., et al. 2000. Phosphoprotein associated with glycosphingolipid-enriched microdomains (PAG), a novel ubiquitously expressed transmembrane adaptor protein, binds the protein tyrosine kinase Csk and is involved in regulation of T cell activation. J. Exp. Med. 191: 1591-1604.
7. Semac, I., et al. 2003. Anti-CD20 therapeutic antibody rituximab modifies the functional organization of rafts/microdomains of B lymphoma cells. Cancer Res. 63: 534-540.

CHROMOSOMAL LOCATION

Genetic locus: PAG1 (human) mapping to 8q21.13; Pag1 (mouse) mapping to 3 A1.

SOURCE

Cbp (PAG-C1) is a mouse monoclonal antibody raised against the C-terminus of Cbp of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Cbp (PAG-C1) is recommended for detection of Cbp of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Cbp siRNA (h): sc-29952, Cbp siRNA (m): sc-29953, Cbp shRNA Plasmid (h): sc-29952-SH, Cbp shRNA Plasmid (m): sc-29953-SH, Cbp shRNA (h) Lentiviral Particles: sc-29952-V and Cbp shRNA (m) Lentiviral Particles: sc-29953-V.

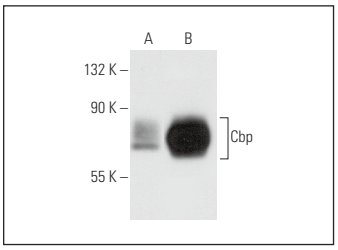
Molecular Weight of Cbp: 80-90 kDa.

Positive Controls: Cbp (h): 293T Lysate: sc-177032, A-431 whole cell lysate: sc-2201 or HeLa whole cell lysate: sc-2200.

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).

DATA



Cbp (PAG-C1): sc-51517. Western blot analysis of Cbp expression in non-transfected: sc-117752 (**A**) and human Cbp transfected: sc-177032 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Sakai, M., et al. 2016. The GCN5-CITED2-PKA signalling module controls hepatic glucose metabolism through a cAMP-induced substrate switch. Nat. Commun. 7: 13147.
2. Moogk, D., et al. 2016. Constitutive Lck activity drives sensitivity differences between $CD8^+$ memory t cell subsets. J. Immunol. 197: 644-654.
3. Liu, C., et al. 2017. Flavonoid-rich extract of *Paulownia fortunei* flowers attenuates diet-induced hyperlipidemia, hepatic steatosis and Insulin resistance in obesity mice by AMPK pathway. Nutrients 9: 959.

RESEARCH USE

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