SANTA CRUZ BIOTECHNOLOGY, INC.

CSP (16): sc-136468

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cysteine string proteins (CSPs) are synaptic vesicle-associated, secretory vesicle proteins that are involved in Ca^{2+}-regulated exocytosis of synaptic vesicles and modulation of presynaptic transmembrane calcium fluxes in neuroendocrine and endocrine cell types. CSP contains a J-domain that binds HSP 70/HSC 70 chaperone ATPases and a membrane-targeting, palmitoylated cysteine-rich string region. CSPs may act as molecular chaperones in synapses, and mediate conformational folding of components of the vesicular exocytotic machinery. CSP is involved in the fine tuning of neurotransmission through its interaction with receptor-coupled trimeric GTP binding proteins (G proteins) and N-type Ca^{2+} channels. Two variants of CSP have been described: CSP1; and the 31 amino acid, C-terminally truncated isoform, CSP2. Subcellular fractionation of Insulinoma cells shows CSP1 in granular fractions, while the membrane and cytosol fractions contain predominantly CSP2. The fractions also contain additional proteins, presumably CSP dimers. Furthormore, in various mammalian cell lines (including rat brain) CSP1 expression predominates CSP2 expression.

REFERENCES

1. Brown, H., et al. 1998. Cysteine string protein (CSP) is an Insulin secretory granule-associated protein regulating β-cell exocytosis. EMBO J. 17: 5048-5058.
2. Chamberlain, L.H. and Burgoyne, R.D. 1998. Cysteine string protein functions directly in regulated exocytosis. Mol. Biol. Cell 9: 2259-2267.
3. Zhang, H., et al. 1999. Mutational analysis of cysteine-string protein function in Insulin exocytosis. J. Cell Sci. 112: 1345-1351.
4. Magga, J.M., et al. 2000. Cysteine string protein regulates G protein modulation of N-type calcium channels. Neuron 28: 195-204.

CHROMOSOMAL LOCATION

Genetic locus: DNAJC5 (human) mapping to 20q13.33; Dnajc5 (mouse) mapping to 2 H4.

SOURCE

CSP (16) is a mouse monoclonal antibody raised against amino acids 81-198 of CSP of rat origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} 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.

PROTOCOLS

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

APPLICATIONS

CSP (16) is recommended for detection of CSP 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 CSP siRNA (h): sc-43709, CSP siRNA (m): sc-41928, CSP shRNA Plasmid (h): sc-43709-SH, CSP shRNA Plasmid (m): sc-41928-SH, CSP shRNA (h) Lentiviral Particles: sc-43709-V and CSP shRNA (m) Lentiviral Particles: sc-41928-V.

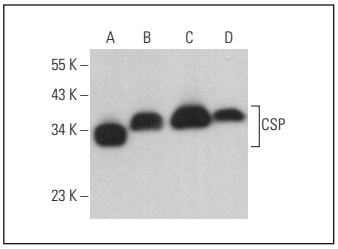
Molecular Weight of CSP: 30 kDa.

Positive Controls: THP-1 cell lysate: sc-2238, Neuro-2A whole cell lysate: sc-364185 or Caco-2 cell lysate: sc-2262.

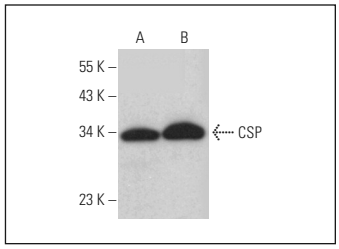
RECOMMENDED SUPPORT REAGENTS

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



CSP (16): sc-136468. Western blot analysis of CSP expression in THP-1 (**A**), Caco-2 (**B**), RD (**C**) and Neuro-2A (**D**) whole cell lysates.



CSP (16): sc-136468. Western blot analysis of CSP expression in mouse postnatal brain tissue extract (**A**) and c4 whole cell lysate (**B**).

SELECT PRODUCT CITATIONS

1. Bate, C. and Williams, A. 2015. α-synuclein-induced synapse damage in cultured neurons is mediated by cholesterol-sensitive activation of cytoplasmic phospholipase A_2. Biomolecules 5: 178-193.

RESEARCH USE

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