

CSP (H-3): sc-137128

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. Furthermore, 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, DNAJC5B (human) mapping to 8q13.1; Dnajc5 (mouse) mapping to 2 H4, Dnajc5b (mouse) mapping to 3 A3.

SOURCE

CSP (H-3) is a mouse monoclonal antibody raised against amino acids 71-198 mapping at the C-terminus of CSP of human origin.

PRODUCT

Each vial contains 200 μg IgG γ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CSP (H-3) is available conjugated to agarose (sc-137128 AC), 500 $\mu\text{g}/0.25$ ml agarose in 1 ml, for IP; to HRP (sc-137128 HRP), 200 $\mu\text{g}/\text{ml}$, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-137128 PE), fluorescein (sc-137128 FITC), Alexa Fluor[®] 488 (sc-137128 AF488), Alexa Fluor[®] 546 (sc-137128 AF546), Alexa Fluor[®] 594 (sc-137128 AF594) or Alexa Fluor[®] 647 (sc-137128 AF647), 200 $\mu\text{g}/\text{ml}$, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-137128 AF680) or Alexa Fluor[®] 790 (sc-137128 AF790), 200 $\mu\text{g}/\text{ml}$, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

CSP (H-3) is recommended for detection of CSP isoforms 1 and 2 and β -CSP of mouse, rat and human 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).

CSP (H-3) is also recommended for detection of CSP isoforms 1 and 2 and β -CSP in additional species, including equine.

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.

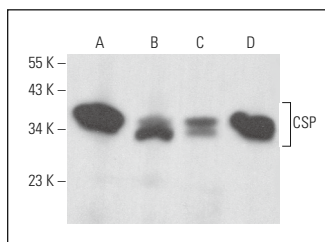
Positive Controls: mouse cerebellum extract: sc-2403, human cerebellum extract: sc-516706 or rat spinal cord tissue extract: sc-395024.

RECOMMENDED SUPPORT REAGENTS

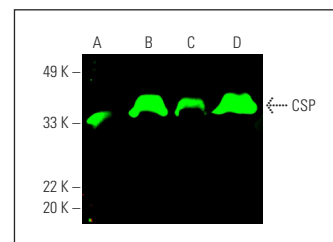
To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



CSP (H-3): sc-137128. Western blot analysis of CSP expression in mouse cerebellum (A), human cerebellum (B), rat spinal cord (C) and human cerebral cortex (D) tissue extracts.



CSP (H-3): sc-137128. Near-infrared western blot analysis of CSP expression in human brain (A), mouse brain (B), rat brain (C) and rat cerebellum (D) tissue extracts. Blocked with UltraCruz[®] Blocking Reagent: sc-516214. Detection reagent used: m-IgG κ BP-CFL 680: sc-516180.

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.