

Cat.No. 154 003; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Rabbit serum albumin was added for stabilization. For reconstitution add 50 µl H ₂ O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.
Applications	WB: 1 : 1000 up to 1 : 10000 (AP staining) IP: yes ICC: 1 : 100 up to 1 : 1000 IHC: yes IHC-P/FFPE: yes
Immunogen	Synthetic peptide corresponding to AA 182 to 198 from rat CSP (UniProt Id: P60905)
Reactivity	Reacts with: human (Q9H3Z4), rat (P60905), mouse (P60904), cow, dog, chicken. Other species not tested yet.
Specificity	Specific for CSP.

TO BE USED IN VITRO / FOR RESEARCH ONLY NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Cysteine String Proteins CSPs are composed of an N-terminal J-domain and a central palmitoylated cysteine string. This post-translational modification shifts the molecular weight of CSP 1 in brain from 23 kDa to 34 kDa and confers membrane targeting of the protein. CSP has been initially identified as a synaptic vesicle protein which is involved in Ca²⁺ triggered neurotransmitter release. Later CSP was also found on Large Dense Core Vesicles (LDCVs) of pancreatic insulin secretory β-cells, chromaffin cells and adipocytes. It has been shown to interact with SNARE proteins like VAMP 2, VAMP 7 and syntaxin 4.

Selected References SYSY Antibodies

Composition of isolated synaptic boutons reveals the amounts of vesicle trafficking proteins. Wilhelm BG, Mandat S, Truckenbrodt S, Kröhnert K, Schäfer C, Rammner B, Koo SJ, Claßen GA, Krauss M, Haucke V, Urlaub H, et al. Science (New York, N.Y.) (2014) 344(6187): 1023-8. **WB, ICC, IHC; tested species: mouse, rat**

LuThy: a double-readout bioluminescence-based two-hybrid technology for quantitative mapping of protein-protein interactions in mammalian cells.

Trepte P, Kruse S, Kostova S, Hoffmann S, Buntru A, Tempelmeier A, Secker C, Diez L, Schulz A, Klockmeier K, Zenkner M, et al. Molecular systems biology (2018) 14(7): e8071. **WB, ICC; tested species: mouse**

Molecular dynamics of photoreceptor synapse formation in the developing chick retina.

Wahlin KJ, Moreira EF, Huang H, Yu N, Adler R

The Journal of comparative neurology (2008) 506(5): 822-37. **WB, IHC**

Ubiquitin-Synaptobrevin Fusion Protein Causes Degeneration of Presynaptic Motor Terminals in Mice.

Liu Y, Li H, Sugiura Y, Han W, Gallardo G, Khvotchev M, Zhang Y, Kavalali ET, Südhof TC, Lin W

The Journal of neuroscience : the official journal of the Society for Neuroscience (2015) 35(33): 11514-31. **WB**

Selective coexpression of synaptic proteins, α-synuclein, cysteine string protein-α, synaptophysin, synaptotagmin-1, and synaptobrevin-2 in vesicular acetylcholine transporter-immunoreactive axons in the guinea pig ileum.

Sharrad DF, Gai WP, Brookes SJ

The Journal of comparative neurology (2013) 521(11): 2523-37. **IHC**

α-Syn suppression reverses synaptic and memory defects in a mouse model of dementia with Lewy bodies.

Lim Y, Kehm VM, Lee EB, Soper JH, Li C, Trojanowski JQ, Lee VM

The Journal of neuroscience : the official journal of the Society for Neuroscience (2011) 31(27): 10076-87. **IHC**

Cysteine string protein-alpha prevents activity-dependent degeneration in GABAergic synapses.

García-Junco-Clemente P, Cantero G, Gómez-Sánchez L, Linares-Clemente P, Martínez-López JA, Luján R, Fernández-Chacón R

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Selected General References

Interaction between constitutively expressed heat shock protein, Hsc 70, and cysteine string protein is important for cortical granule exocytosis in *Xenopus* oocytes.

Smith GB, Umbach JA, Hirano A, Gundersen CB

The Journal of biological chemistry (2005) 280(38): 32669-75.

Phosphorylation of cysteine string protein in the brain: developmental, regional and synaptic specificity.

Evans GJ, Morgan A

The European journal of neuroscience (2005) 21(10): 2671-80.

Cysteine string protein (CSP) inhibition of N-type calcium channels is blocked by mutant huntingtin.

Miller LC, Swayne LA, Chen L, Feng ZP, Wacker JL, Muchowski PJ, Zamponi GW, Braun JE

The Journal of biological chemistry (2003) 278(52): 53072-81.

The synaptic vesicle protein, cysteine-string protein, is associated with the plasma membrane in 3T3-L1 adipocytes and interacts with syntaxin 4.

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Journal of cell science (2001) 114(Pt 2): 445-55.

The cysteine-string domain of the secretory vesicle cysteine-string protein is required for membrane targeting.

Chamberlain LH, Burgoyne RD

The Biochemical journal (1998) 335 (Pt 2): 205-9.

The molecular chaperone function of the secretory vesicle cysteine string proteins.

Chamberlain LH, Burgoyne RD

The Journal of biological chemistry (1997) 272(50): 31420-6.

Identification of a novel cysteine string protein variant and expression of cysteine string proteins in non-neuronal cells.

Chamberlain LH, Burgoyne RD

The Journal of biological chemistry (1996) 271(13): 7320-3.