

ERC 2

Cat.No. 143 103; 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 TBS. Then aliquot and store at -20°C until use.
Applications	WB: 1 : 100 up to 1 : 2000 (AP staining) IP: not tested yet ICC: yes IHC: yes IHC-P/FFPE: not tested yet
Immunogen	Synthetic peptide corresponding to AA 655 to 670 from rat ERC2 (UniProt Id: Q8K3M6)
Reactivity	Reacts with: rat (Q8K3M6), mouse (Q6PH08), hamster. No signal: zebrafish. Other species not tested yet.
Specificity	Specific for ERC 2. (K.O. verified)
matching control	143-1P

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

ELKS, also referred to as **ERCs** (ERC 1 and ERC 2) and **CAST**, are related proteins which share an identical C-terminal sequence. They interact with the conserved RIM PDZ domain via an unusual PDZ binding motif. Two splice variants of ERC 1 (1a and 1b) have been described. ERC 1b (CAST 2a) binds to RIM and is expressed exclusively in the brain. ERC 1a is a ubiquitously expressed cytosolic protein. ERC 2 (CAST 1) is only expressed as a single RIM binding variant. All ERCs have been shown to interact with Rab 6, a protein involved in membrane trafficking at the Golgi complex. The function of these proteins has not been determined yet. They may link Rab 6 mediated non-neuronal membrane traffic at the Golgi complex to neuronal membrane traffic at the active zone executed via RIMs.

Selected References SYSY Antibodies

Molecular dissection of the photoreceptor ribbon synapse: physical interaction of Bassoon and RIBEYE is essential for the assembly of the ribbon complex.
tom Dieck S, Altmann WD, Kessels MM, Qualmann B, Regus H, Brauner D, Fejtová A, Bracko O, Gundelfinger ED, Brandstätter JH
The Journal of cell biology (2005) 168(5): 825-36. **WB, IHC**

The Exocyst Component Exo70 Modulates Dendrite Arbor Formation, Synapse Density, and Spine Maturation in Primary Hippocampal Neurons.
Lira M, Arancibia D, Orrego PR, Montenegro-Venegas C, Cruz Y, García J, Leal-Ortiz S, Godoy JA, Gundelfinger ED, Inestrosa NC, Garner CC, et al.
Molecular neurobiology (2018) : **WB; tested species: rat**

The active zone protein CAST regulates synaptic vesicle recycling and quantal size in the mouse hippocampus.
Kobayashi S, Hida Y, Ishizaki H, Inoue E, Tanaka-Okamoto M, Yamasaki M, Miyazaki T, Fukaya M, Kitajima I, Takai Y, Watanabe M, et al.
The European journal of neuroscience (2016) 44(5): 2272-84. **WB; KO verified**

Molecular anatomy of the hair cell's ribbon synapse.
Uthiaah RC, Hudspeth AJ
The Journal of neuroscience : the official journal of the Society for Neuroscience (2010) 30(37): 12387-99. **WB**

Molecular anatomy of a trafficking organelle.
Takamori S, Holt M, Stenius K, Lemke EA, Grønborg M, Riedel D, Urlaub H, Schenck S, Brügger B, Ringler P, Müller SA, et al.
Cell (2006) 127(4): 831-46. **WB**

Selected General References

Physical and functional interaction of the active zone proteins, CAST, RIM1, and Bassoon, in neurotransmitter release.
Takao-Rikitsu E, Mochida S, Inoue E, Deguchi-Tawarada M, Inoue M, Ohtsuka T, Takai Y
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CAST2: identification and characterization of a protein structurally related to the presynaptic cytomatrix protein CAST.
Deguchi-Tawarada M, Inoue E, Takao-Rikitsu E, Inoue M, Ohtsuka T, Takai Y
Genes to cells : devoted to molecular & cellular mechanisms (2004) 9(1): 15-23.

Interaction of the ERC family of RIM-binding proteins with the liprin-alpha family of multidomain proteins.
Ko J, Na M, Kim S, Lee JR, Kim E
The Journal of biological chemistry (2003) 278(43): 42377-85.

Cast: a novel protein of the cytomatrix at the active zone of synapses that forms a ternary complex with RIM1 and munc13-1.
Ohtsuka T, Takao-Rikitsu E, Inoue E, Inoue M, Takeuchi M, Matsubara K, Deguchi-Tawarada M, Satoh K, Morimoto K, Nakanishi H, Takai Y, et al.
The Journal of cell biology (2002) 158(3): 577-90.

A family of RIM-binding proteins regulated by alternative splicing: Implications for the genesis of synaptic active zones.
Wang Y, Liu X, Biederer T, Südhof TC
Proceedings of the National Academy of Sciences of the United States of America (2002) 99(22): 14464-9.