

ERC 1b/2

Cat.No. 143 004; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µl antiserum, lyophilized. For reconstitution add 100 µl H ₂ O, then aliquot and store at -20°C until use.
Applications	WB: 1 : 1000 (AP staining) IP: not tested yet ICC: 1 : 500 IHC: not tested yet IHC-P/FFPE: not tested yet
Immunogen	Synthetic peptide corresponding to AA 939 to 948 from rat Erc1b (UniProt Id: Q811U3-1)
Reactivity	Reacts with: human (Q8IUD2, O15083), rat (Q811U3, Q8K3M6), mouse (Q99M11, Q6PH08). Other species not tested yet.
Specificity	Specific for the brain specific isoforms ERC 1b and ERC 2.
matching control	143-0P

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 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
The Journal of cell biology (2004) 164(2): 301-11.

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.