

EEA 1

Cat.No. 237 002; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	200 µl antiserum, lyophilized. For reconstitution add 200 µl H ₂ O, then aliquot and store at -20°C until use.
Applications	WB: 1 : 1000 up to 1 : 5000 (AP staining) IP: not tested yet ICC: 1 : 1000 up to 1 : 2000 IHC: yes IHC-P/FFPE: 1 : 200
Immunogen	Synthetic peptide corresponding to AA 2 to 13 from human EEA1 (UniProt Id: Q15075)
Reactivity	Reacts with: human (Q15075), rat (A0A0G2K051), mouse (Q8BL66). No signal: zebrafish. Other species not tested yet.
Specificity	Specific for EEA 1.

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

Extracellular compounds are internalized by endocytosis into so called endocytic vesicles. They fuse with early endosomes, from where the endocytosed material can be shuttled to a number of alternative destinations.

Early endosomal antigen 1 (EEA 1) is a peripheral membrane protein that locates to early endosomes via binding to the membrane lipid phosphatidylinositol 3-phosphate (PtdIns3P) and the active form of Rab5.

Autoantibodies against EEA 1 have been shown to be associated with subacute cutaneous systemic lupus erythematosus.

Selected References SYSY Antibodies

A novel method for culturing stellate astrocytes reveals spatially distinct Ca²⁺ signaling and vesicle recycling in astrocytic processes.

Wolfe AC, Ahmed S, Awasthi A, Stahlberg MA, Rajput A, Magruder DS, Bonn S, Dean C
The Journal of general physiology (2017) 149(1): 149-170. **ICC**

Quantitative analysis of synaptic vesicle Rabs uncovers distinct yet overlapping roles for Rab3a and Rab27b in Ca²⁺-triggered exocytosis.

Pavlos NJ, Grønberg M, Riedel D, Chua JJ, Boyken J, Kloepper TH, Urlaub H, Rizzoli SO, Jahn R
The Journal of neuroscience : the official journal of the Society for Neuroscience (2010) 30(40): 13441-53. **WB**

Coupling of microtubule motors with AP-3 generated organelles in axons by NEEF21 Family Member Calcyon.
Shi L, Hines T, Bergson C, Smith D
Molecular biology of the cell (2018) : mbcE18010007. **ICC; tested species: monkey**

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

Sorting in early endosomes reveals connections to docking- and fusion-associated factors.

Barysch SV, Aggarwal S, Jahn R, Rizzoli SO
Proceedings of the National Academy of Sciences of the United States of America (2009) 106(24): 9697-702.

SNARE function is not involved in early endosome docking.

Geumann U, Barysch SV, Hoopmann P, Jahn R, Rizzoli SO
Molecular biology of the cell (2008) 19(12): 5327-37.

Selected General References

Cell-cycle-dependent binding kinetics for the early endosomal tethering factor EEA1.

Bergeland T, Haugen L, Landsverk OJ, Stenmark H, Bakke O
EMBO reports (2008) 9(2): 171-8.

EEA1, a tethering protein of the early sorting endosome, shows a polarized distribution in hippocampal neurons, epithelial cells, and fibroblasts.

Wilson JM, de Hoop M, Zorzi N, Toh BH, Dotti CG, Parton RG
Molecular biology of the cell (2000) 11(8): 2657-71.

The Rab5 effector EEA1 interacts directly with syntaxin-6.

Simonsen A, Gaullier JM, D'Arrigo A, Stenmark H
The Journal of biological chemistry (1999) 274(41): 28857-60.

The endosome fusion regulator early-endosomal autoantigen 1 (EEA1) is a dimer.

Callaghan J, Simonsen A, Gaullier JM, Toh BH, Stenmark H
The Biochemical journal (1999) 338 (Pt 2): 539-43.

Endosomal localization of the autoantigen EEA1 is mediated by a zinc-binding FYVE finger.

Stenmark H, Aasland R, Toh BH, D'Arrigo A
The Journal of biological chemistry (1996) 271(39): 24048-54.

EEA1, an early endosome-associated protein. EEA1 is a conserved alpha-helical peripheral membrane protein flanked by cysteine "fingers" and contains a calmodulin-binding IQ motif.

Mu FT, Callaghan JM, Steele-Mortimer O, Stenmark H, Parton RG, Campbell PL, McCluskey J, Yeo JP, Tock EP, Toh BH
The Journal of biological chemistry (1995) 270(22): 13503-11.