



Aex-3 (cP-20): sc-15652

BACKGROUND

Guanine nucleotide exchange is crucial for Rab GTPase activities in regulating intracellular vesicle trafficking facilitated by guanine nucleotide exchange factor (GEF). *C. elegans* aex-3 encodes a 1409 amino acid protein Aex-3 and is expressed in all or nearly all neurons. Aex-3 is a GEF for Rab3 GTPase that regulates synaptic vesicle release. Aex-3 also regulates neural activities through a second pathway by interacting with a novel protein CAB-1. The aex-3 mutant phenotype resembles the sum of the rab-3 and cab-1 mutant phenotypes, suggesting that Aex-3 regulates two different pathways for neural activities. aex-3 mutations reduce synaptic transmission and show strong genetic interactions with mutations in unc-31 and unc-64, which are also implicated in synaptic transmission. In aex-3 mutants, the synaptic vesicle-associated RAB-3 protein accumulates in neuronal cell bodies and is reduced in synapse-rich axons, indicating that Aex-3 is required for proper localization of RAB-3 protein in axons.

REFERENCES

1. Iwasaki, K. and Toyonaga, R. 2000. The Rab3 GDP/GTP exchange factor homolog Aex-3 has a dual function in synaptic transmission. *EMBO J.* 19: 4806-4816.
2. Iwasaki, K., Staunton, J., Saifee, O., Nonet, M., and Thomas, J.H. 1997. Aex-3 encodes a novel regulator of presynaptic activity in *C. elegans*. *Neuron* 18: 613-622.
3. Chow, V.T., Lim, K.M., and Lim, D. 1998. The human DENN gene: genomic organization, alternative splicing, and localization to chromosome 11p11.21-p11.22. *Genome* 41: 543-552.
4. Thomas, J.H. 1990. Genetic analysis of defecation in *Caenorhabditis elegans*. *Genetics* 124: 855-872.
5. Avery, L. 1993. The genetic of feeding in *Caenorhabditis elegans*. *Genetics* 133: 897-917.

SOURCE

Aex-3 (cP-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Aex-3 of *Caenorhabditis elegans* origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-15652 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

Aex-3 (cP-20) is recommended for detection of Aex-3 of *Caenorhabditis elegans* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.