SANTA CRUZ BIOTECHNOLOGY, INC.

ERAB (F-1): sc-393694

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

β-Amyloid is a neurotoxic peptide that is associated with the pathogenesis of Alzheimer's disease. β-Amyloid aggregates induce cell death of neurons through the disruption of cell membranes and the generation of reactive oxygen intermediates. These neurotoxic effects are also attributed to the interaction of β-Amyloid with intracellular proteins, specifically ERAB, the endoplasmic reticulum-associated β-Amyloid-binding protein. ERAB is characterized as a NAD^+-dependent dehydrogenase that is constitutively expressed in tissues and overexpressed in neurons affected in Alzheimer's disease. Cells overexpressing ERAB *in vitro* have been shown to be more sensitive to β-Amyloid-induced stress, and blocking the activity of ERAB has been shown to inhibit this cell death, indicating that β-Amyloid induced cell death is mediated by ERAB.

REFERENCES

1. Hensley, K., et al. 1994. A model for β-Amyloid aggregation and neurotoxicity based on free radical generation by the peptide: relevance to Alzheimer disease. Proc. Natl. Acad. Sci. USA 91: 3270-3274.
2. Yan, S.D., et al. 1997. An intracellular protein that binds Amyloid-β peptide and mediates neurotoxicity in Alzheimer's disease. Nature 389: 689-695.
3. Price, D.L., et al. 1998. Genetic neurodegenerative diseases: the human illness and transgenic models. Science 282: 1079-1083.
4. He, X.Y., et al. 1998. A human brain L-3-hydroxyacyl-coenzyme A dehydrogenase is identical to an Amyloid β-peptide-binding protein involved in Alzheimer's disease. J. Biol. Chem. 273: 10741-10746.
5. Hansis, C., et al. 1998. The gene for the Alzheimer associated β Amyloid-binding protein (ERAB) is differentially expressed in the testicular Leydig cells of the azoospermic by w/w^v mouse. Eur. J. Biochem. 258: 53-60.
6. Sambamurti, K., et al. 1998. ERAB contains a putative noncleavable signal peptide. Biochem. Biophys. Res. Commun. 249: 546-549.

CHROMOSOMAL LOCATION

Genetic locus: HSD17B10 (human) mapping to Xp11.22; Hsd17b10 (mouse) mapping to X F3.

SOURCE

ERAB (F-1) is a mouse monoclonal antibody raised against amino acids 181-261 mapping at the C-terminus of ERAB of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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

ERAB (F-1) is recommended for detection of ERAB of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for ERAB siRNA (h): sc-41938, ERAB siRNA (m): sc-41939, ERAB shRNA Plasmid (h): sc-41938-SH, ERAB shRNA Plasmid (m): sc-41939-SH, ERAB shRNA (h) Lentiviral Particles: sc-41938-V and ERAB shRNA (m) Lentiviral Particles: sc-41939-V.

Molecular Weight of ERAB homotetramer: 108 kDa.

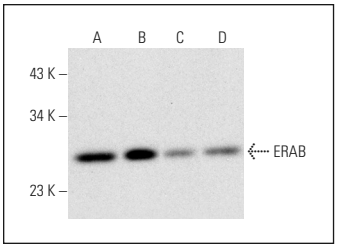
Molecular Weight of ERAB subunit size: 27 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

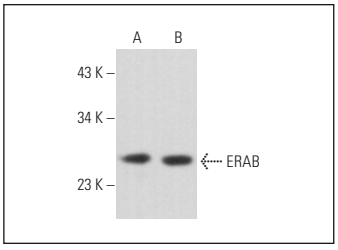
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



ERAB (F-1): sc-393694. Western blot analysis of ERAB expression in SK-N-SH (**A**), HeLa (**B**), Jurkat (**C**) and K-562 (**D**) whole cell lysates.



ERAB (F-1): sc-393694. Western blot analysis of ERAB expression in HeLa (**A**) and Ramos (**B**) whole cell lysates.

PROTOCOLS

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