

ERAB (23): sc-136326

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

- 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.
- 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.
- Price, D.L., et al. 1998. Genetic neurodegenerative diseases: the human illness and transgenic models. *Science* 282: 1079-1083.
- 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.

CHROMOSOMAL LOCATION

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

SOURCE

ERAB (23) is a mouse monoclonal antibody raised against amino acids 41-57 of ERAB of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ERAB (23) is available conjugated to agarose (sc-136326 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-136326 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-136326 PE), fluorescein (sc-136326 FITC), Alexa Fluor[®] 488 (sc-136326 AF488), Alexa Fluor[®] 594 (sc-136326 AF594) or Alexa Fluor[®] 647 (sc-136326 AF647), 200 μ g/ml, for IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-136326 AF680) or Alexa Fluor[®] 790 (sc-136326 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

RESEARCH USE

For research use only, not for use in diagnostic procedures. Not for resale.

APPLICATIONS

ERAB (23) is recommended for detection of ERAB of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

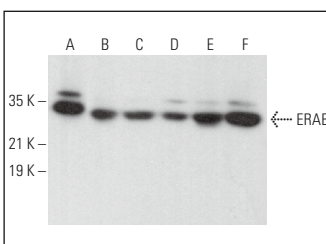
Molecular Weight of ERAB subunit size: 27 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, NIH/3T3 whole cell lysate: sc-2210 or Ramos cell lysate: sc-2216.

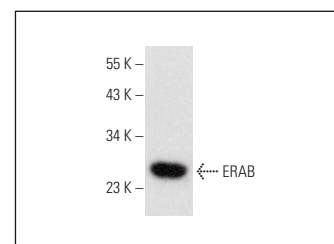
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 (23): sc-136326. Western blot analysis of ERAB expression in HeLa (A), Ramos (B), Raji (C), Jurkat (D), K-562 (E) and MIA PaCa-2 (F) whole cell lysates.



ERAB (23): sc-136326. Western blot analysis of ERAB expression in NIH/3T3 whole cell lysate.

SELECT PRODUCT CITATIONS

- Sacchi, S., et al. 2011. Evidence for the interaction of D-amino acid oxidase with pLG72 in a glial cell line. *Mol. Cell. Neurosci.* 48: 20-28.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

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