SANTA CRUZ BIOTECHNOLOGY, INC.

IDE (F-9): sc-393887

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Insulin degrading enzyme (IDE), initiates the cleavage of Insulin, resulting in Insulin response and resistance. However, IDE also degrades a variety of bioactive peptides, including Amyloid-β peptides, implicating IDE in certain age-related changes seen in Alzheimer's disease. Studies show that when the expression of the IDE gene (chromosome 10q23.33) is altered, changes occur not only in glucose homeostasis, but also in the levels of brain Aβ40 and Aβ42 peptides. An IDE inhibitor, bacitracin, inhibits degradation of both Insulin and amylin, indicating that both are degraded through a common proteolytic pathway. Variations in the rate of proteolysis suggest that the function of IDE exhibits conformational dependence, which may lead to possible therapeutic interventions for diabetes, AD, and other diseases associated with IDE substrate proteolysis.

CHROMOSOMAL LOCATION

Genetic locus: IDE (human) mapping to 10q23.33; Ide (mouse) mapping to 19 C2.

SOURCE

IDE (F-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 122-145 near the N-terminus of IDE 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.

IDE (F-9) is available conjugated to agarose (sc-393887 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393887 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393887 PE), fluorescein (sc-393887 FITC), Alexa Fluor® 488 (sc-393887 AF488), Alexa Fluor® 546 (sc-393887 AF546), Alexa Fluor® 594 (sc-393887 AF594) or Alexa Fluor® 647 (sc-393887 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393887 AF680) or Alexa Fluor® 790 (sc-393887 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393887 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

IDE (F-9) is recommended for detection of IDE 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 IDE siRNA (h): sc-106817, IDE siRNA (m): sc-146140, IDE shRNA Plasmid (h): sc-106817-SH, IDE shRNA Plasmid (m): sc-146140-SH, IDE shRNA (h) Lentiviral Particles: sc-106817-V and IDE shRNA (m) Lentiviral Particles: sc-146140-V.

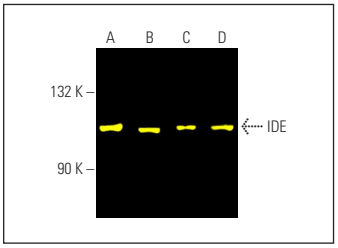
Molecular Weight of IDE: 118 kDa.

Positive Controls: Neuro-2A whole cell lysate: sc-364185, K-562 whole cell lysate: sc-2203 or HL-60 whole cell lysate: sc-2209.

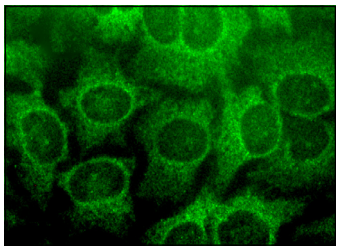
STORAGE

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

DATA



IDE (F-9) Alexa Fluor® 488: sc-393887 AF488. Direct fluorescent western blot analysis of IDE expression in Neuro-2A (**A**), K-562 (**B**), NIH/3T3 (**C**) and HL-60 (**D**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.



IDE (F-9): sc-393887. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Moore, K.M., et al. 2016. A spectrum of exercise training reduces soluble Aβ in a dose-dependent manner in a mouse model of Alzheimer's disease. Neurobiol. Dis. 85: 218-224.
2. Azzam, S., et al. 2017. Proteomic profiling of the hypothalamus in two mouse models of narcolepsy. Proteomics 17: 10.1002/pmic.201600478.
3. Barone, E., et al. 2019. Biliverdin reductase-A mediates the beneficial effects of intranasal Insulin in Alzheimer disease. Mol. Neurobiol. 56: 2922-2943.
4. Herledan, A., et al. 2020. Drug target engagement using coupled cellular thermal shift assay-acoustic reverse-phase protein array. SLAS Discov. 25: 207-214.
5. Qu, C., et al. 2021. Nano-Honokiol ameliorates the cognitive deficits in TgCRND8 mice of Alzheimer's disease via inhibiting neuropathology and modulating gut microbiota. J. Adv. Res. 35: 231-243.
6. Gao, P., et al. 2022. Daphnetin ameliorates Aβ pathogenesis via STAT3/GFAP signaling in an APP/PS1 double-transgenic mouse model of Alzheimer's disease. Pharmacol. Res. 180: 106227.
7. Liu, M., et al. 2022. Transcriptomic profile identifies hippocampal Sgk1 as the key mediator of ovarian estrogenic regulation on spatial learning and memory and Aβ accumulation. Neurochem. Res. 47: 3369-3384.
8. Xu, Q.Q., et al. 2023. Patchouli alcohol attenuates the cognitive deficits in a transgenic mouse model of Alzheimer's disease via modulating neuropathology and gut microbiota through suppressing C/EBPβ/AEP pathway. J. Neuroinflammation 20: 19.

RESEARCH USE

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

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