SANTA CRUZ BIOTECHNOLOGY, INC.

β-Amyloid (D-11): sc-374527



BACKGROUND

Proteolytic cleavage of the Amyloid protein precursor (APP) gives rise to the β -Amyloid and Amyloid A4 proteins, which are present in human platelets. Amyloid deposition is associated with type II diabetes, Down syndrome and a variety of neurological disorders, including Alzheimer's disease. The Amyloid precursor protein (APP) undergoes alternative splicing, resulting in several isoforms. Proteolytic cleavage of APP leads to the formation of the Amyloid β /A4 Amyloid protein. This protein is involved in the formation of neurofibrillary tangles and plaques that characterize the senile plaques of Alzheimer's patients. APLP1 (Amyloid precursor-like protein 1) and APLP2 are structurally similar to APP. Human APLP2 is a membrane-bound sperm protein that contains a region highly homologous to the transmembrane-cytoplasmic domains of APP found in brain plaques of Alzheimer's disease patients.

REFERENCE

- Kosik, K.S. 1992 Alzheimer's disease: a cell perspective. Science 256: 780-783.
- 2. Hirai, S. and Okamoto, K. 1993. Amyloid β /A4 peptide associated with Alzheimer's disease and cerebral Amyloid angiopathy. Intern. Med. 32: 923-925.

CHROMOSOMAL LOCATION

Genetic locus: APP (human) mapping to 21q21.3; App (mouse) mapping to 16 C3.3.

SOURCE

 β -Amyloid (D-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 663-687 at the C-terminus of β -Amyloid of human origin.

PRODUCT

Each vial contains 200 μg lgG1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

β-Amyloid (D-11) is available conjugated to agarose (sc-374527 AC), 500 μg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374527 HRP), 200 μg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374527 PE), fluorescein (sc-374527 FITC), Alexa Fluor[®] 488 (sc-374527 AF488), Alexa Fluor[®] 546 (sc-374527 AF546), Alexa Fluor[®] 594 (sc-374527 AF594) or Alexa Fluor[®] 647 (sc-374527 AF647), 200 μg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-374527 AF680) or Alexa Fluor[®] 790 (sc-374527 AF790), 200 μg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374527 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

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

APPLICATIONS

 β -Amyloid (D-11) is recommended for detection of 4 kDa β -Amyloid and Amyloid A4 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

 β -Amyloid (D-11) is also recommended for detection of 4 kDa β -Amyloid and Amyloid A4 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for APP siRNA (h): sc-29677, APP siRNA (m): sc-29678, APP shRNA Plasmid (h): sc-29677-SH, APP shRNA Plasmid (m): sc-29678-SH, APP shRNA (h) Lentiviral Particles: sc-29677-V and APP shRNA (m) Lentiviral Particles: sc-29678-V.

Molecular Weight of β-Amyloid: 4-46 kDa

Molecular Weight of Amyloid A4: 100-125 kDa.

Positive Controls: H4 cell lysate: sc-2408, PC-3 cell lysate: sc-2220 or human brain extract: sc-364375.

DATA





 β -Amyloid (D-11): sc-374527. Western blot analysis of β -Amyloid expression in H4 (**A**) and PC-3 (**B**) whole cell lysates and human brain tissue extract (**C**).

β-Amyloid (D-11): sc-374527. Immunoperoxidase staining of formalin fixed, parafin-embedded human cerebral cortex tissue showing cytoplasmic and nuclear staining of neuronal cells and neuropil staining (A). Immunoperoxidase staining of formalin fixed, paraffinembedded mouse brain tissue showing cytoplasmic staining of neuronal cells and cytoplasmic and membrane staining of endothelial cells (B).

SELECT PRODUCT CITATIONS

- Ali, T., et al. 2015. Osmotin attenuates Amyloid β-induced memory impairment, Tau phosphorylation and neurodegeneration in the mouse hippocampus. Sci. Rep. 5: 11708.
- Sohn, E., et al. 2021. *Ficus erecta Thunb.* leaves ameliorate cognitive deficit and neuronal damage in a mouse model of Amyloid-β-induced Alzheimer's disease. Front. Pharmacol. 12: 607403.
- Kim, J.Y., et al. 2022. Mitigating effect of estrogen in Alzheimer's diseasemimicking cerebral organoid. Front. Neurosci. 16: 816174.

RESEARCH USE

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