β-Amyloid (D-17): sc-5399

SANTA CRUZ®
BIOTECHNOLOGY

The Power to Question

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 iso-forms. Proteolytic cleavage of APP leads to the formation of the 4 kDa β-Amyloid/A4 protein. This protein is involved in the formation of neurofibril-lary 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 con-tains a region highly homologous to the transmembrane-cytoplasmic domains of APP found in brain plaques of Alzheimer's disease patients.

CHROMOSOMAL LOCATION

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

SOURCE

β-Amyloid (D-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of β-Amyloid of human 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-5399 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

β-Amyloid (D-17) is recommended for detection of 4 kDa β-Amyloid and Amyloid A4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

β-Amyloid (D-17) 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, mouse brain extract: sc-2253 or U-87 MG cell lysate: sc-2411.
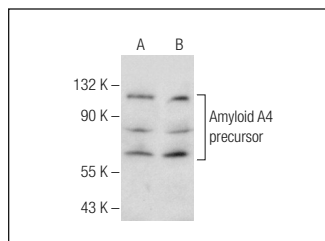
RESEARCH USE

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

STORAGE

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

DATA

β-Amyloid (D-17): sc-5399. Western blot analysis of β-Amyloid expression in H4 (**A**) and U-87 MG (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Nelson, T.J., et al. 2005. Oxidation of cholesterol by amyloid precursor protein and β-Amyloid peptide. J. Biol. Chem. 280: 7377-7387.

2. Alexandrov, P.N., et al. 2005. Synergistic effects of iron and aluminum on stress-related gene expression in primary human neural cells. J. Alzheimers Dis. 8: 117-127.

3. De Schepper, S., et al. 2006. Neurofibromatosis type 1 protein and amy-loid precursor protein interact in normal human melanocytes and colocalize with melanosomes. J. Invest. Dermatol. 126: 653-659.

4. Bao, J., et al. 2007. Suppression of β-Amyloid precursor protein signaling into the nucleus by estrogens mediated through complex formation between the estrogen receptor and Fe65. Mol. Cell. Biol. 27: 1321-1333.

5. Das, U., et al. 2007. Interface peptide of Alzheimer's Amyloid β: applica-tion in purification. Biochem. Biophys. Res. Commun. 362: 538-542.

6. Miller, L.M., et al. 2007. A new sample substrate for imaging and correlat-ing organic and trace metal composition in biological cells and tissues. Anal. Bioanal. Chem. 387: 1705-1715.

7. Qu, B.X., et al. 2010. Analysis of three plasmid systems for use in DNA A β 42 immunization as therapy for Alzheimer's disease. Vaccine 28: 5280-5287.

8. Austin, S.A., et al. 2010. Amyloid precursor protein mediates monocyte adhesion in AD tissue and apoE-/- mice. Neurobiol. Aging 31: 1854-1866.

9. Floden, A.M., et al. 2011. Microglia demonstrate age-dependent interac-tion with amyloid-β fibrils. J. Alzheimers Dis. 25: 279-293.

MONOS
Satisfation
Guaranteed

Try **β-Amyloid (B-4): sc-28365** or **β-Amyloid (D-11): sc-374527**, our highly recommended monoclonal alternatives to β-Amyloid (D-17). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **β-Amyloid (B-4): sc-28365**.