SANTA CRUZ BIOTECHNOLOGY, INC.

Amyloid A4 (BAM-10): sc-58506

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's 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 4 kDa Amyloid β/A4 protein. This protein is involved in the formation of neurofibrillary tangles and plaques that characterize the senile plaques of Alzheimer 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 disease patients.

REFERENCES

1. Kosik, K.S. 1992 Alzheimer's disease: a cell perspective. Science 256: 780-783.
2. Dyrks, T., et al. 1993. Generation of β A4 from the Amyloid protein precursor and fragments thereof. FEBS Letts. 335: 89-93.
3. Hirai, S., et al. 1993. Amyloid β/A4 peptide associated with Alzheimer's disease and cerebral Amyloid angiopathy. Int. Med. 32: 923-925.
4. Arendt, T., et al. 1995. Paired helical filament-like phosphorylation of tau, deposition of β/A4-Amyloid and memory impairment in rat induced by chronic inhibition of phosphatase 1 and 2A. Neuroscience 69: 691-698.
5. Gillmore, J.D., et al. 1997. Amyloidosis: a review of recent diagnostic and therapeutic developments. Br. J. Haematol. 99: 245-256.
6. van Leeuwen, F.W., et al. 1998. Frameshift mutants of β Amyloid precursor protein and ubiquitin-B in Alzheimer's and Down patients. Science 279: 242-247.
7. Tamboli, I.Y., et al. 2005. Inhibition of glycosphingolipid biosynthesis reduces secretion of the β-Amyloid precursor protein and Amyloid β-peptide. J. Biol. Chem. 280: 28110-28117.

CHROMOSOMAL LOCATION

Genetic locus: APP (human) mapping to 21q21.3.

SOURCE

Amyloid A4 (BAM-10) is a mouse monoclonal antibody raised against amino acids 1-40 of Amyloid A4 of human origin.

PRODUCT

Each vial contains 250 µl ascites containing IgG_1 in PBS with < 0.1% sodium azide.

PROTOCOLS

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

APPLICATIONS

Amyloid A4 (BAM-10) is recommended for detection of APP and Amyloid A4 of human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:10-1:200), immunoprecipitation [1-2 µl per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution to be determined by researcher, dilution range 1:10-1:200) and immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:10-1:200); may cross-react with Amyloid plaques within the cortex, and Amyloid deposits in blood vessels, Lewy body dementia, Down's syndrome, amyloidosis and in Gram-Parkinson dementia complex.

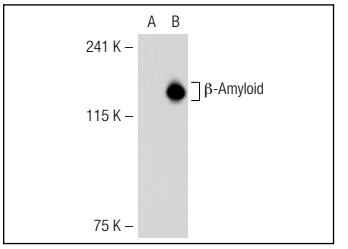
Molecular Weight of Amyloid A4: 100-125 kDa.

Positive Controls: β-Amyloid (h): 293T Lysate: sc-117075, H4 cell lysate: sc-2408 or IMR-32 cell lysate: sc-2409.

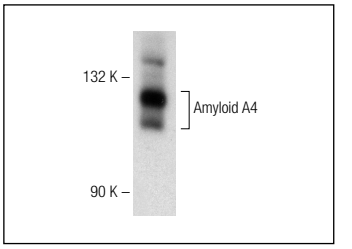
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

DATA



Amyloid A4 (BAM-10): sc-58506. Western blot analysis of β-Amyloid expression in non-transfected: sc-117752 (**A**) and human β-Amyloid transfected: sc-117075 (**B**) 293T whole cell lysates.



Amyloid A4 (BAM-10): sc-58506. Western blot analysis of Amyloid A4 expression in IMR-32 whole cell lysate.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

RESEARCH USE

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