

β-Amyloid (6A6): sc-70356

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.

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 Lett.* 335: 89-93.
3. Hirai, S. and Okamoto, K. 1993. Amyloid β/A4 peptide associated with Alzheimer's disease and cerebral Amyloid angiopathy. *Intern. 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. *Neurosci.* 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

β-Amyloid (6A6) is a mouse monoclonal antibody raised against recombinant β-Amyloid₆₉₅ of human origin.

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 or our catalog for detailed protocols and support products.

PRODUCT

Each vial contains 200 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

β-Amyloid (6A6) is recommended for detection of APP and an epitope within the first 200 amino acids in β-Amyloid of 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 and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of β-Amyloid: 4-46 kDa.

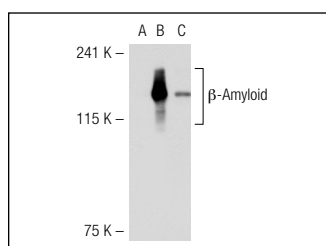
Molecular Weight of Amyloid A4: 100-125 kDa.

Positive Controls: H4 cell lysate: sc-2408, PC-3 cell lysate: sc-2220 or U-87 MG cell lysate: sc-2411.

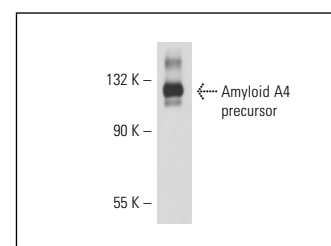
RECOMMENDED SECONDARY REAGENTS

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



β-Amyloid (6A6): sc-70356. Western blot analysis of β-Amyloid expression in non-transfected 293T: sc-117752 (A), human β-Amyloid transfected 293T: sc-117075 (B) and H4 (C) whole cell lysates.



β-Amyloid (6A6): sc-70356. Western blot analysis of Amyloid A4 precursor expression in H4 whole cell lysate.

RESEARCH USE

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