

Amyloid A4 (N-18): sc-7498

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 β -Amyloid/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. Dykes, 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 τ , 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.

CHROMOSOMAL LOCATION

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

SOURCE

Amyloid A4 (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Amyloid A4 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7498 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Amyloid A4 (N-18) is recommended for detection of APP 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 μ g per 100-500 μ g 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).

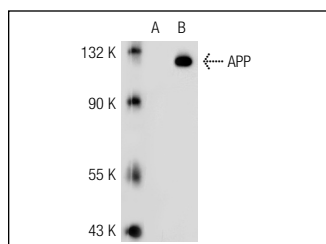
Amyloid A4 (N-18) is also recommended for detection of APP and Amyloid A4 in additional species, including equine, canine, bovine, porcine and avian.

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.

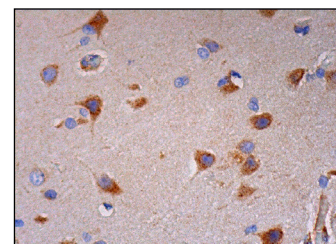
Molecular Weight of Amyloid A4: 100-125 kDa.

Positive Controls: APP (h): 293T Lysate: sc-117075, H4 cell lysate: sc-2408 or mouse brain extract: sc-2253.

DATA



Amyloid A4 (N-18): sc-7498. Western blot analysis of APP expression in non-transfected: sc-117752 (A) and human APP transfected: sc-117075 (B) 293T whole cell lysates.



Amyloid A4 (N-18): sc-7498. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing cytoplasmic staining of neuronal cells and endothelial cells.

SELECT PRODUCT CITATIONS

1. 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.
2. Capsoni, S., et al. 2012. Intranasal "painless" human nerve growth factors slows amyloid neurodegeneration and prevents memory deficits in App X PS1 mice. *PLoS ONE* 7: e37555.

RESEARCH USE

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



Try **β -Amyloid (B-4): sc-28365** or **β -Amyloid (D-11): sc-374527**, our highly recommended monoclonal alternatives to Amyloid A4 (N-18). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **β -Amyloid (B-4): sc-28365**.