

# β-Amyloid (NAB228): sc-32277

## 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 4 kDa β-Amyloid/A4 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.
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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., Holzer, M., Fruth, R., Bruckner, M.K., and Gartner, U. 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., Hawkins, P.N. and Pepys, M.B. 1997. Amyloidosis: a review of recent diagnostic and therapeutic developments. *Br. J. Haematol.* 99: 245-256.
6. van Leeuwen, F.W., de Kleijn, D.P., van den Hurk, H.H., Neubauer, A., Sonnemans, M.A., Stuijs, J.A., Koycu, S., Ramdjielal, R.D., Salehi, A., Martens, G.J., Grosveld, F.G., Peter, J., Burbach, H. and Hol, E.M. 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

β-Amyloid (NAB228) is a mouse monoclonal antibody raised against a synthetic peptide.

## PRODUCT

Each vial contains 200 μg IgG<sub>2a</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## RESEARCH USE

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

## APPLICATIONS

β-Amyloid (NAB228) is recommended for detection of 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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

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

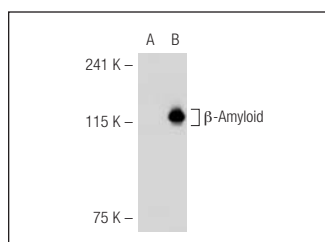
Molecular Weight of Amyloid A4: 100-125 kDa.

Positive Controls: β-Amyloid (h): 293T Lysate: sc-117075, H4 cell lysate: sc-2408 or PC-3 cell lysate: sc-2220.

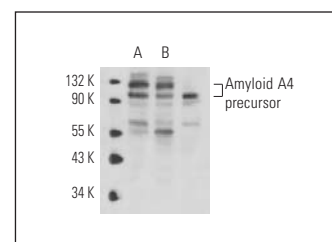
## RECOMMENDED SECONDARY REAGENTS

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.

## DATA



β-Amyloid (NAB228): sc-32277. 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.



β-Amyloid (NAB228): sc-32277. Western blot analysis of Amyloid A4 precursor protein expression in PC-3 (A), U-87 MG (B) and H4 (C) whole cell lysates.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.