

# β-Amyloid (B-4): sc-28365

## 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., Dyrks, E., Monning, U., Urmoneit, B., Turner, J., and Beyreuther, K. 1993. Generation of beta A4 from the amyloid protein precursor and fragments thereof. *FEBS Letts.* 335: 89-93.
3. Hirai, S. and Okamoto, K. 1993. Amyloid beta/A4 peptide associated with Alzheimer's disease and cerebral amyloid angiopathy. *Internal Medicine* 32: 923-925.
4. Arendt, T., Holzer, M., Fruth, R., Bruckner, M.K., and Gartner, U. 1995. Paired helical filament-like phosphorylation of tau, deposition of beta/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. *British J. of Haematol.* 99: 245-256.
6. van Leeuwen, F.W., de Kleijn, D.P., van den Hurk, H.H., Neubauer, A., Sonnemans, M.A., Sluijs, J.A., Koycu, S., Ramdjielal, R.D., et al. 1998. Frameshift mutants of beta 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-qter.

## SOURCE

β-Amyloid (B-4) is a mouse monoclonal antibody raised against amino acids 672-714 of Amyloid A4 representing full length β-Amyloid of human origin.

## 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 (B-4) is recommended for detection of β-Amyloid and Amyloid A4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 β-Amyloid siRNA (h): sc-29677 and β-Amyloid siRNA (m): sc-29678.

Molecular Weight of β-Amyloid: 4-46 kDa (various forms).

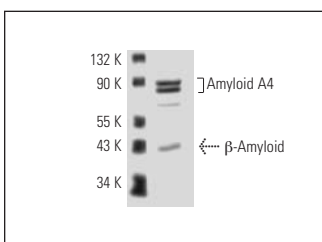
Molecular Weight of Amyloid A4: 100-125 kDa (various forms).

Positive Controls: H4 cell lysate: sc-2408, mouse brain extract: sc-2253 or rat brain extract: sc-2392.

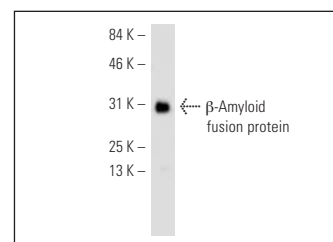
## RECOMMENDED SECONDARY REAGENTS

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 (B-4): sc-28365. Western blot analysis of Amyloid A4 and β-Amyloid expression in rat brain tissue extract.



β-Amyloid (B-4): sc-28365. Western blot analysis of human recombinant β-Amyloid fusion protein.

## 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.