



# β-Amyloid (6G12): sc-81439

## 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., Dyrks, E., Monning, U., Urmonit, B., Turner, J. and Beyreuther, K. 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., Holzer, M., Fruth, R., Bruckner, M.K. and Gartner, U. 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., 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., Sluijs, 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.
7. Tamboli, I.Y., Prager, K., Barth, E., Heneka, M., Sandhoff, K. and Walter, J. 2005. Inhibition of glycosphingolipid biosynthesis reduces secretion of the β-Amyloid precursor protein and Amyloid β-peptide. *J. Biol. Chem.* 280: 28110-28117.
8. LocusLink Report (LocusID: 351). <http://www.ncbi.nlm.nih.gov/LocusLink/>

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

β-Amyloid (6G12) is a mouse monoclonal antibody raised against the C-terminus of β-Amyloid of human origin.

## PRODUCT

Each vial contains 50 μg IgG<sub>1</sub> in 500 μl of PBS with < 0.1% sodium azide, 1% gelatin, PEG and sucrose.

## APPLICATIONS

β-Amyloid (6G12) is recommended for detection of the C-terminus of β-Amyloid (1-43) of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μg per 100-500 μg of total protein (1 ml of cell lysate)]; non cross-reactive with β-Amyloid (1-40), also designated β-APP40, or β-Amyloid (1-42), also designated β-APP42.

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.

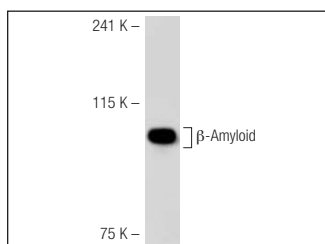
Molecular Weight of β-Amyloid: 4-46 kDa.

Molecular Weight of Amyloid A4: 100-125 kDa.

## 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).

## DATA



β-Amyloid (6G12): sc-81439. Western blot analysis of β-Amyloid expression in H4 whole cell lysate.

## RESEARCH USE

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