

ACYP2 (2B4): sc-134247

BACKGROUND

The formation of stable highly organized protein aggregates, known as amyloid fibrils, is associated with several debilitating human diseases, including Alzheimer's disease, Parkinson's disease, and Creutzfeldt-Jakob disease. In each of these conditions, a peptide or protein that is normally soluble accumulates into insoluble fibrils. Muscle acylphosphatase (ACYP2) has emerged as a significant model system to study protein misfolding and aggregation. It is particularly suitable for these studies because muscle acylphosphatase is a small, simple protein of only 98 amino acids consisting of a five-stranded antiparallel β -sheet and two parallel α -helices. Mutations in ACYP2 between residues 16-31 and 87-98, which includes its phosphate binding site at Arg 23, significantly increases the rate of aggregation. These mutations correlate with changes in the hydrophobicity of ACYP2 and a conversion of the α -helical structures to β -sheets. Therefore, a reduction in the net charge of a protein may be a key determinant in some forms of protein deposition diseases.

REFERENCES

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6. Chiti, F., Calamai, M., Taddei, N., Stefani, M., Ramponi, G. and Dobson, C.M. 2002. Studies of the aggregation of mutant proteins *in vitro* provide insights into the genetics of Amyloid diseases. *Proc. Natl. Acad. Sci. USA* 99: 16419-16426.

CHROMOSOMAL LOCATION

Genetic locus: ACYP2 (human) mapping to 2p16.2.

SOURCE

ACYP2 (2B4) is a mouse monoclonal antibody raised against recombinant ACYP2 protein of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ACYP2 (2B4) is recommended for detection of ACYP2 of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ACYP2 siRNA (h): sc-38900, ACYP2 shRNA Plasmid (h): sc-38900-SH and ACYP2 shRNA (h) Lentiviral Particles: sc-38900-V.

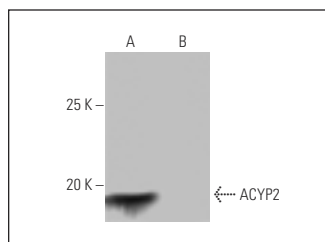
Molecular Weight of ACYP2: 11 kDa.

Positive Controls: human ACYP2 transfected 293T whole cell lysate.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 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



ACYP2 (2B4): sc-134247. Western blot analysis of ACYP2 expression in human ACYP2 transfected (A) and non-transfected (B) 293T 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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.