

# Aspartoacylase (I-16): sc-109210

## BACKGROUND

Aspartoacylase, also known as ASPA, ACY2 or ASP, is a 313 amino acid protein that is expressed in liver, lung and kidney tissue, as well as in skeletal muscle and in cerebral white matter. Existing as a homodimer, Aspartoacylase functions to catalyze the deacetylation of N-acetylaspatic acid (NAA) (a protein whose hydrolysis is crucial to maintenance of intact white matter) to produce acetate and L-aspartate. Defects in the gene encoding Aspartoacylase are the cause of Canavan disease (CAND), which is a rare neurodegenerative condition that is characterized by white matter vacuolization and demyelination, resulting in a spongy deterioration of brain tissue. CAND is generally characterized by atonia of neck muscles, hypotonia, hyperextension of legs and flexion of arms, blindness, severe mental retardation, megaloccephaly and death.

## REFERENCES

1. Kaul, R., et al. 1993. Cloning of the human Aspartoacylase cDNA and a common missense mutation in Canavan disease. *Nat. Genet.* 5: 118-123.
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3. Olsen, T.R., et al. 2002. Two novel Aspartoacylase gene (ASPA) missense mutations specific to Norwegian and Swedish patients with Canavan disease. *J. Med. Genet.* 39: e55.
4. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608034. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Le Coq, J., et al. 2006. Characterization of human Aspartoacylase: the brain enzyme responsible for Canavan disease. *Biochemistry* 45: 5878-5884.
6. Hershfield, J.R., et al. 2006. Aspartoacylase is a regulated nuclear-cytoplasmic enzyme. *FASEB J.* 20: 2139-2141.
7. Hershfield, J.R., et al. 2007. Mutational analysis of Aspartoacylase: implications for Canavan disease. *Brain Res.* 1148: 1-14.

## CHROMOSOMAL LOCATION

Genetic locus: Aspa (mouse) mapping to 11 B4.

## SOURCE

Aspartoacylase (I-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Aspartoacylase of mouse origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-109210 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

Aspartoacylase (I-16) is recommended for detection of Aspartoacylase of mouse and rat 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Aspartoacylase siRNA (m): sc-141303, Aspartoacylase shRNA Plasmid (m): sc-141303-SH and Aspartoacylase shRNA (m) Lentiviral Particles: sc-141303-V.

Molecular Weight of monomer Aspartoacylase: 38 kDa.

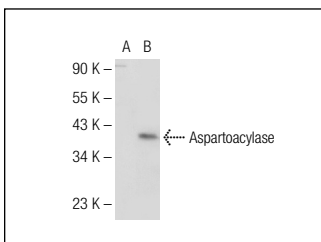
Molecular Weight of dimer Aspartoacylase: 84 kDa.

Positive Controls: Aspartoacylase (m): 293T Lysate: sc-125004.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

## DATA



Aspartoacylase (I-16): sc-109210. Western blot analysis of Aspartoacylase expression in non-transfected: sc-117752 (A) and mouse Aspartoacylase transfected: sc-125004 (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.

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Try **Aspartoacylase (D-11): sc-377308**, our highly recommended monoclonal alternative to Aspartoacylase (I-16).