

ASA (H-5): sc-365176

BACKGROUND

ASA (arylsulfatase A), also known as cerebroside-sulfatase, ARSA or MLD, is a 507 amino acid lysosomal protein that belongs to the sulfatase family. Functioning as a homodimer at a neutral pH and as a homo-octamer at an acidic pH, ASA uses magnesium as a cofactor to catalyze the H₂O-dependent hydrolysis of cerebroside 3-sulfate to cerebroside and sulfate. Defects in the gene encoding ASA are a cause of metachromatic leukodystrophy (MLD), an intralysosomal storage disease that is characterized by ataxias, dementia, seizures, spastic tetraparesis and, ultimately, death. Additionally, defects in ASA activity are associated with multiple sulfatase deficiency (MSD), a disorder that results in decreased activity of all known sulfatases and is generally characterized by metachromatic leukodystrophy, mucopolysaccharidosis, chondrodysplasia punctata, hydrocephalus, ichthyosis, neurologic deterioration and developmental delay.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607574. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Jean, S., et al. 2006. Ethanol decreases rat hepatic arylsulfatase A activity levels. *Alcohol. Clin. Exp. Res.* 30: 1950-1955.
3. Jiménez, I., et al. 2006. Carbohydrate affinity chromatography indicates that arylsulfatase-A from capacitated boar sperm has mannose and N-acetylglucosamine/sialic acid residues. *Arch. Androl.* 52: 455-462.
4. Biffi, A., et al. 2006. Gene therapy of metachromatic leukodystrophy reverses neurological damage and deficits in mice. *J. Clin. Invest.* 116: 3070-3082.

CHROMOSOMAL LOCATION

Genetic locus: ARSA (human) mapping to 22q13.33.

SOURCE

ASA (H-5) is a mouse monoclonal antibody raised against amino acids 145-273 mapping within an internal region of ASA of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ASA (H-5) is available conjugated to agarose (sc-365176 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365176 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365176 PE), fluorescein (sc-365176 FITC), Alexa Fluor® 488 (sc-365176 AF488), Alexa Fluor® 546 (sc-365176 AF546), Alexa Fluor® 594 (sc-365176 AF594) or Alexa Fluor® 647 (sc-365176 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365176 AF680) or Alexa Fluor® 790 (sc-365176 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

ASA (H-5) is recommended for detection of ASA of 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)], 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 ASA siRNA (h): sc-72542, ASA shRNA Plasmid (h): sc-72542-SH and ASA shRNA (h) Lentiviral Particles: sc-72542-V.

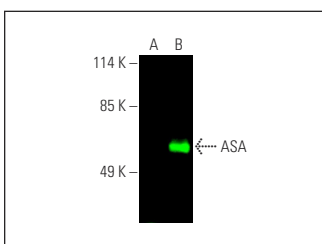
Molecular Weight of ASA: 62 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, T24 cell lysate: sc-2292 or ASA (h5): 293 Lysate: sc-158283.

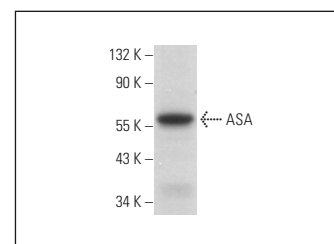
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



ASA (H-5): sc-365176. Near-infrared western blot analysis of ASA expression in non-transfected: sc-110760 (A) and human ASA transfected: sc-158283 (B) 293 whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



ASA (H-5): sc-365176. Western blot analysis of ASA expression in T24 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Corda, P.O., et al. 2021. Bioinformatic approach to unveil key differentially expressed proteins in human sperm after slow and rapid cryopreservation. *Front. Cell Dev. Biol.* 9: 759354.

RESEARCH USE

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

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