SANTA CRUZ BIOTECHNOLOGY, INC.

IDS (E-4): sc-365149

BACKGROUND

IDS (iduronate 2-sulfatase), also known as SIDS, is a 550 amino acid protein that localizes to the lysosome and belongs to the sulfatase family. Expressed in lung, liver, kidney and placenta, IDS uses calcium as a cofactor to catalyze the hydrolysis of select sulfate groups on dermatan sulfate, heparan sulfate and heparin and, via this catalytic activity, is essential for the lysosomal degradation of both dermatan and heparan sulfate. Defects in the gene encoding IDS are the cause of mucopolysaccharidosis type 2 (MPS2), more commonly known as Hunter syndrome, which is characterized by skeletal deformities, hepatosplenomegaly and progressive cardiopulmonary deterioration, as well as neurological damage and, in some cases, death. IDS exists as two alternatively spliced isoforms, designated long and short.

REFERENCES

1. Wilson, P.J., et al. 1993. Sequence of the human iduronate 2-sulfatase (IDS) gene. Genomics 17: 773-775.
2. Malmgren, H., et al. 1995. Identification of an alternative transcript from the human iduronate-2-sulfatase (IDS) gene. Genomics 29: 291-293.
3. Li, P., et al. 1999. Molecular basis of iduronate-2-sulphatase gene mutations in patients with mucopolysaccharidosis type II (Hunter syndrome). J. Med. Genet. 36: 21-27.
4. Bonuccelli, G., et al. 2001. The effect of four mutations on the expression of iduronate-2-sulfatase in mucopolysaccharidosis type II. Biochim. Biophys. Acta 1537: 233-238.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 30990. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Ricci, V., et al. 2003. Expression studies of two novel in CIS-mutations identified in an intermediate case of Hunter syndrome. Am. J. Med. Genet. A 120A: 84-87.
7. Tomatsu, S., et al. 2004. General implications for CpG hot spot mutations: methylation patterns of the human iduronate-2-sulfatase gene locus. Hum. Mutat. 23: 590-598.
8. Parkinson-Lawrence, E., et al. 2005. Analysis of normal and mutant iduronate-2-sulphatase conformation. Biochem. J. 386: 395-400.

CHROMOSOMAL LOCATION

Genetic locus: IDS (human) mapping to Xq28; Ids (mouse) mapping to X A7.1.

SOURCE

IDS (E-4) is a mouse monoclonal antibody raised against amino acids 92-334 mapping within an internal region of IDS of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

IDS (E-4) is recommended for detection of IDS of mouse, rat and human 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 IDS siRNA (h): sc-90917, IDS siRNA (m): sc-146143, IDS shRNA Plasmid (h): sc-90917-SH, IDS shRNA Plasmid (m): sc-146143-SH, IDS shRNA (h) Lentiviral Particles: sc-90917-V and IDS shRNA (m) Lentiviral Particles: sc-146143-V.

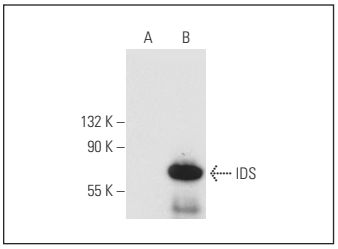
Molecular Weight of IDS: 62 kDa.

Positive Controls: IDS (m): 293 Lysate: sc-178771 or WI-38 whole cell lysate: sc-364260.

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



IDS (E-4): sc-365149. Western blot analysis of IDS expression in non-transfected: sc-110760 (**A**) and mouse IDS transfected: sc-178771 (**B**) 293 whole cell lysates.

SELECT PRODUCT CITATIONS

1. Vollebregt, A.A.M., et al. 2017. Genotype-phenotype relationship in mucopolysaccharidosis II: predictive power of IDS variants for the neuronopathic phenotype. Dev. Med. Child Neurol. 59: 1063-1070.

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.