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Produktinformation



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Diagnostik & molekulare Diagnostik



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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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PRODUCT INFORMATION



IDS (human, recombinant)

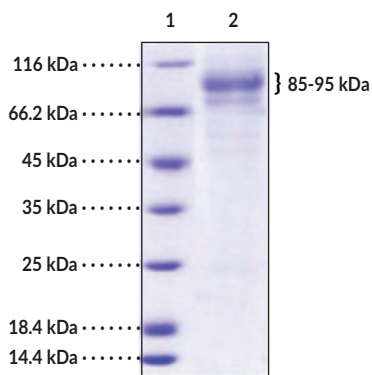
Item No. 32088

Overview and Properties

| | |
|---------------------------|--|
| Synonyms: | Iduronate 2-Sulfatase, α -L-Iduronate Sulfate Sulfatase, Idursulfase |
| Source: | Active recombinant human C-terminal His-tagged IDS expressed in HEK293 cells |
| Amino Acids: | 26-550 |
| Uniprot No.: | P22304 |
| Molecular Weight: | 61 kDa |
| Storage: | -80°C (as supplied) |
| Stability: | ≥ 1 year |
| Purity: | $\geq 87\%$ estimated by SDS-PAGE |
| Supplied in: | Lyophilized from sterile PBS, pH 7.4 |
| Endotoxin Testing: | < 1.0 EU/ μ g, determined by the LAL endotoxin assay |
| Bioactivity: | Measured by its ability to hydrolyze the substrate 4-nitrocatechol sulfate (PNCS). The specific activity is > 1.0 pmoles/min/ μ g. |

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: IDS

SDS-PAGE Analysis of IDS. This protein has a calculated molecular weight of 61 kDa. It has an apparent molecular weight of approximately 85-95 kDa by SDS-PAGE under reducing conditions due to glycosylation.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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PRODUCT INFORMATION



Description

Iduronate 2-sulfatase (IDS) is a lysosomal exohydrolase belonging to the sulfatase family and is required for the degradation of the glycosaminoglycans heparan sulfate and dermatan sulfate.^{1,2} IDS is synthesized as a 550-amino acid precursor comprised of an N-terminal signal peptide and propeptide that are cleaved during secretion and maturation, followed by two subdomains, SD1, which contains the catalytic core, and the catalytically-inactive SD2.²⁻⁴ SD1 and SD2 can be separated by proteolytic cleavage and remain stably associated in an enzymatically active form. IDS is highly expressed in the brain, particularly in the cortex, amygdala, hippocampus, hypothalamus, and basal ganglia, with lower levels observed in the cerebellum and spinal cord.³ Mutations in *IDS* resulting in IDS functional deficiencies cause Hunter syndrome, also known as mucopolysaccharidosis type II (MPS II), an X-linked lysosomal storage disease.^{1,2} Formulations containing recombinant human IDS have been used in the treatment of Hunter syndrome. Cayman's IDS (human, recombinant) protein can be used for enzyme activity assay applications. This protein consists of 536 amino acids, has a calculated molecular weight of 61 kDa, and a predicted N-terminus of Ser26 after signal peptide cleavage. By SDS-PAGE, under reducing conditions, the protein migrates as several bands with apparent molecular masses of 85 to 95 kDa due to glycosylation.

References

1. Wilson, P.J., Meaney, C.A., Hopwood, J.J., *et al.* Sequence of the human iduronate 2-sulfatase (IDS) gene. *Genomics* **17**(3), 773-775 (1993).
2. Demydchuk, M., Hill, C.H., Zhou, A., *et al.* Insights into Hunter syndrome from the structure of iduronate-2-sulfatase. *Nat. Commun.* **8**, 15786 (2017).
3. Holmes, R.S. Comparative studies of vertebrate iduronate 2-sulfatase (*IDS*) genes and proteins: Evolution of a mammalian X-linked gene. *3 Biotech* **7**(1), 22 (2017).
4. Wilson, P.J., Morris, C.P., Anson, D.S., *et al.* Hunter syndrome: Isolation of an iduronate-2-sulfatase cDNA clone and analysis of patient DNA. *Proc. Natl. Acad. Sci. USA* **87**(21), 8531-8535 (1990).

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