

## Product Information

## Chondroitinase ABC from *Proteus Vulgaris*

Recombinant, Low Endotoxin, Aqueous Solution,  
≥ 100 U/mL, 50-250 units/mg protein, BSA free

**SAE0150**

**Storage temperature:** -70 °C

EC 4.2.2.20

Uniprot: P59807

Synonyms: chondroitin-sulfate-ABC endolyase component.

### Product Description

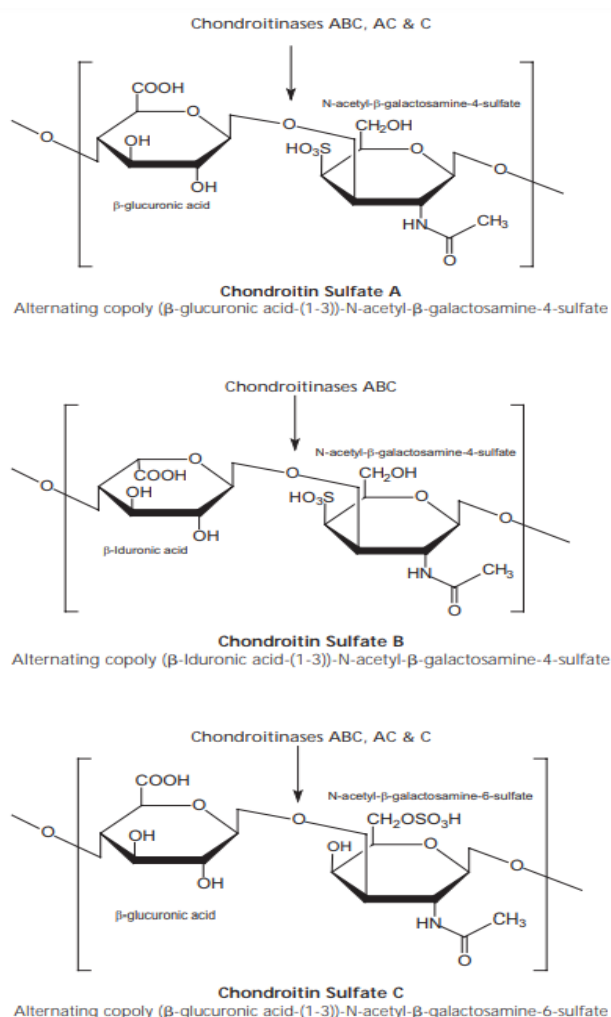
Chondroitinase ABC from *Proteus vulgaris* catalyzes endolytic cleavage of (1->4)-beta-galactosaminic bonds between *N*-acetylgalactosamine and either D-glucuronic acid or L-iduronic acid, to produce a mixture of Δ(4)-unsaturated oligosaccharides of different sizes. Chondroitinase ABC acts on chondroitin 4-sulfate, chondroitin 6-sulfate, and dermatan sulfate, and acts slowly on hyaluronate.<sup>1</sup> Chondroitin sulfate belongs to a group of glycosaminoglycans (GAGs), and is a linear polysaccharide that can be found in ECM (Extracellular Matrix) and in cartilage as structural component<sup>2,3</sup>. Chondroitin sulfate and Dermatan sulfate have a regulatory function in different cellular processes, in the immune system and in development<sup>4,5</sup>.

While Chondroitinase ABC purified from *Proteus vulgaris* (C3667) is a mixture of two enzymes, chondroitin-sulfate-ABC endolyase component and chondroitin-sulfate-ABC exolyase, this recombinant product contains only the endolyase component, and has a calculated molecular weight of 112 kDa.

A research observation showed that Chondroitinase activity can affect spinal cord lesion by cleavage of GAGs<sup>6</sup>. Chondroitinase also shows a protective effect in mouse model for Parkinson's disease.<sup>7</sup> Different application can be found in analytical quantitation of chondroitin sulphate and hyaluronan disaccharides<sup>8</sup>.

Unit definition: 1 unit will liberate 1.0 μmole of unsaturated disaccharides per min at pH 8.0 at 37 °C, using chondroitin sulfate from shark cartilage (C4384) as substrate.

The assay is based on the formation of Δ 4,5-unsaturated disaccharides that absorbs at 232 nm<sup>1</sup>.



pH optimum:<sup>1</sup>

- pH 8.0 (chondroitin sulfate)
- pH 6.8 (hyaluronic acid)

Temperature optimum:<sup>1</sup> 37 °C

Activator:<sup>4</sup> 0.05 M acetate

Inhibitors:<sup>9</sup> 1 mM Zn<sup>2+</sup>, Ni<sup>2+</sup>, Fe<sup>2+</sup> and Cu<sup>2+</sup>

This recombinant Chondroitinase ABC (Uniprot P59807) is expressed in *Escherichia coli*. The purified protein, without any purification tags, is supplied in a solution containing 50 mM HEPES, pH 8.0, 50 mM NaCl, 30 mM Imidazole, 40 mg/mL Trehalose, and 10% (w/v) Glycerol.

## Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

## Storage/Stability

The product is stable for at least 2 years as supplied at -70 °C, or for 6 months if stored at -20 °C.

## References

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SAE0150dat Rev 05/21

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