Chondroitinase ABC from *Proteus vulgaris*

Catalog Number C3667
Storage Temperature −20 °C

CAS RN 9024-13-9
EC 4.2.2.20 (chondroitin-sulfate-ABC endolyase component)
EC 4.2.2.21 (chondroitin-sulfate-ABC exolysase component)
Synonym: Chondroitin ABC Lyase

**Product Description**

Chondroitinase ABC catalyzes the eliminative degradation of polysaccharides that contain (1→4)-β-D-hexosaminy1 and (1→3)-β-D-glucuronosyl or (1→3)-α-L-iduronosyl linkages to disaccharides containing 4-deoxy-β-D-gluc-4-enuronosyl groups. It acts on chondroitin 4-sulfate, chondroitin 6-sulfate, and dermatan sulfate, and acts slowly on hyaluronate. Initial rates of degradation of chondroitin sulfate B, chondroitin, and hyaluronic acid were, respectively, 40%, 20%, and 2% those of chondroitin sulfate A and chondroitin sulfate C.

Molecular mass: ~120 kDa (gel filtration and sucrose gradient ultracentrifugation)

SDS-PAGE indicates two non-identical subunits with molecular masses of 86 kDa and 32 kDa.

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

Temperature optimum: 37 °C

Activator: 0.05 M acetate

Inhibitor: 1 mM Zn²⁺

This essentially protease-free, lyophilized product is affinity-purified from *Proteus vulgaris*. It contains ~10% protein with potassium phosphate buffer salts and stabilizer. The preparation is free of BSA.

Specific Activity: 50–250 units/mg protein (using chondroitin sulfate C as substrate)

Unit definition: One unit will liberate 1.0 μmole of 2-acetamido-2-deoxy-3-O-(β-D-gluc-4-ene-pyranosyluronic acid)-4-O-sulfo-D-galactose from chondroitin sulfate A or 1.0 μmole of 2-acetamido-2-deoxy-3-O-(β-D-gluc-4-ene-pyranosyluronic acid)-6-O-sulfo-D-galactose from chondroitin sulfate C per minute at pH 8.0 at 37 °C.

**Precautions and Disclaimer**

This product is 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.

**Preparation Instructions**

Reconstitute in a 0.01% BSA aqueous solution. Subsequent dilutions can be made into a buffer containing 50 mM Trizma® HCl, pH 8.0, with 60 mM sodium acetate and 0.02% BSA. Prepare solutions just prior to use.

**Storage/Stability**

Storage at −20 °C of 20 U/mL stock solutions of this product, in PBS with 1% BSA have been reported. However, we have not tested this ourselves.

**References**

1. Past EC numbers include 4.2.2.4 and 4.2.99.6.

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