

India Contact:

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Product Data Sheet

□ Cat # RP-431

Recombinant Beta Lactamase

Size: □ 1 mg

Synonyms:

β-Lactamase, EC 3.5.2.6, Cephalosporinase.

Beta-lactamase is a type of enzyme (EC3.5.2.6) produced by some bacteria that is responsible for their resistance to beta-lactam antibiotics like penicillins, cephalosporins, cephamycins and carbapenems. These antibiotics have a common element in their molecular structure: a four-atom ring known as a beta-lactam. The lactamase enzyme breaks that ring open, deactivating the molecule's antibacterial properties. These antibiotics have a common element in their molecular structure: a four-atom ring known as a beta-lactam. The lactamase enzyme breaks the β-lactam ring open, deactivating the molecule's antibacterial properties. Beta-lactam antibiotics are typically used to treat a broad spectrum of Gram-positive bacteria, as well as a few Gram-negative bacteria. Beta-lactamases produced by Gram-negative organisms are usually secreted, especially when antibiotics are present in the environment.

Source

Beta-Lactamase Recombinant produced in E.Coli is a single, non-glycosylated polypeptide chain containing 263 amino acids (>95% pure, 29 Kda.). The sequence of the first five N-terminal amino acids was determined and was found to be Met-His-Pro-Glu-Thr. It is supplied in 20mM Phosphate buffer pH-7 or lyophilized in the same buffer. It is recommended to reconstitute the lyophilized Beta Lactamase in H₂O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions. Store at -20°C for long term storage.

Beta Lactamase Sequence:

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MHPETLVK VKDAEDQLGA RVGYIELDLN SGKILESFRP
EERFPMMSTF KVLICGAVLS RVDAGQEQLG RRIHYSQNDL
VEYSPVTEKH LTDGMTVREL CSAAITMSDN TAANLLLTPI
GGPKELTAFI HNMGDHVTRL DRWEPENEA IPNDERDTM
PAAMATTLRK LLTGELLTLA SRQQLIDWME ADKVAGPLLR
SALPAGWFIA DKSGAGERGS RGIIAALGPD GKPSRIVVIY
TTGSQATMDE RNRQIAEIGA SLIKHW.
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Stability

Lyophilized Beta Lactamase although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution Beta Lactamase Recombinant should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1%)

Specific Activity

1,500 IU/mg. One unit will hydrolyze 1.0 µmole of indicated substrate per min at pH 7.0 at 25 °C. The International Unit (using benzylpenicillin as substrate) is approximately equal to 600 Levy or 75 Pollock units.

This item is for LABORATORY RESEARCH USE ONLY.

References: Abraham EP (1940) Nature 46, 837; Bush K (1995) Antimicrob Agents Chemother.;39: 1211-33; Bradford PA (2001) Clin Microbiol Rev. 48:933-51;

Related Items

Catalog# ProdDescription
RP-1621 Recombinant purified Beta Lactamase (E. coli, his-tag)

RP-1622 Recombinant purified Glutaminase 1 (ybaS, E. coli, his-tag)

Rev. 130102A

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