ALPHA DIAGNOSTIC INTERNATIONAL

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, cephamycinsand 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 -20oC for long term storage.

Beta Lactamase Sequence:

MHPETLVK VKDAEDQLGA RVGYIELDLN SGKILESFRP
EERFPMMSTF KVLLCGAVLS RVDAGQEQLG RRIHYSQNDL
VEYSPVTEKH LTDGMTVREL CSAAITMSDN TAANLLLTTI
GGPKELTAFL HNMGDHVTRL DRWEPELNEA IPNDERDTTM
PAAMATTLRK LLTGELLTLA SRQQLIDWME ADKVAGPLLR
SALPAGWFIA DKSGAGERGS RGIIAALGPD GKPSRIVVIY
TTGSQATMDE RNRQIAEIGA SLIKHW.

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%

SpecificActivity

1,500IU/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 ESEARCH 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)

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