



CATALOGUE NUMBER

ENZ-351

SYNONYMS

b-Lactamase, EC 3.5.2.6, TEM-1.

INTRODUCTION

Beta-lactamase is a type of enzyme (EC 3.5.2.6) 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.

DESCRIPTION

Recombinant E.coli Beta-Lactamase produced in E.Coli is a single, non-glycosylated polypeptide chain containing 263 amino acids and having a molecular mass of 29 kDa.

Beta Lactamase is purified by proprietary chromatographic techniques.

SOURCE

Escherichia Coli.

PHYSICAL APPEARANCE

Sterile Filtered White lyophilized (freeze-dried) powder.

FORMULATION

Lyophilized from a concentrated (1mg/ml) solution in water containing 20mM Phosphate buffer pH-7.

SOLUBILITY

It is recommended to reconstitute the lyophilized Beta Lactamase in sterile 18MΩ-cm H₂O at a concentration of 100 µg/ml, which can then be further diluted to other aqueous solutions. The Beta Lactamase should be used in pH 7.0- 8.0 and in temperature not higher than 45°C.

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% HSA or BSA). Please prevent freeze-thaw cycles.



PURITY

Greater than 90.0% as determined by:

- (a) Analysis by RP-HPLC.
 - (b) Analysis by SDS-PAGE.
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AMINO ACID SEQUENCE

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

SPECIFIC ACTIVITY

700IU/mg.

UNIT DEFINITION

One unit will hydrolyze 1.0 μ mole 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.

USAGE

This products are furnished for LABORATORY RESEARCH USE ONLY. They may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.