



## CERTIFICATE OF ANALYSIS

**PRODUCT:** **Beta Lactamase,**  
E.C. 3.5.2.6, ex: *Bacillus cereus* 569/H9

**PRODUCT NUMBER:** L-1163

**LOT NUMBER:** B1889

**APPEARANCE:** Freeze dried powder

**CONTENTS:** Beta Lactamase I: 1203.2 ± 52.29 units per vial  
Beta Lactamase II: 80.47 ± 4.61 units per vial

**STERILITY:** No detectable growth in Tryptone Soya Broth at 30-35°C for 14 days.

**COUNTRY OF ORIGIN:** UK

**STORAGE & HANDLING:** Store at +4°C.

CAUTION: For research use only. Not for human or drug use. The pharmacological and toxicological properties of this product have not been fully investigated. Use caution when handling. Do not use this compound if you are not fully trained or are unaware of the hazards involved.

Verified: DD

## FAQ's

1. A.G. Scientific's beta-Lactamase is a mixture of two enzymes which cause the breakdown of certain antibiotics and is used to remove penicillin and cephalosporin based antibiotics from serum samples which are to be cultured for microbial investigation. The presence of antibiotics in serum samples can lead to false negatives results.
2. One unit of activity is defined as the amount of enzyme that will catalyze the hydrolysis of 1.0 micromole of penicillin (beta I) or cephalosporin (beta II) per minute at 25'C under the assay method conditions.
3. Appearance: Sterile Freeze-Dried Powder containing buffer and zinc salts.
4. BETA-LACTAMASE will inactivate the following antibiotics: Beta-Lactam: Benzylpenicillin, ampicillin, amoxicillin, carbenicillin, methicillin, cloxacillin, flucloxacillin. Cephalosporins: cephaloridine, cephalothin, cephalexin, cephazolin, cephradine\*, cefuroxime\*, cefoxitin\*, ceftizoxime\*, cefpiramide\* (\*require longer incubations for total inactivation). Carbapenems: Bacillus cereus Beta-Lactamase II has been reported to hydrolyse some carbapenems.
5. The material is dispensed into each vial by volume, not by weight. The amount dispensed varies by batch and is based on the concentration (units) of B-lactamase I and II. The material is irradiated and loses some activity due to the irradiation and this is taken into account when determining the final concentration of B-lactamase I and II per vial.
6. Sterility: The vial products are bacteriologically sterile. They are sterilized by gamma irradiation. No detectable growth in Nutrient Broth at 37 °C for fourteen days.
7. BSE Questions: Product is BSE free. BSA is used in production, purchased from Sigma and is certified to be USA origin only and BSE free.
8. Units as represented on Certificate of Analysis are INTERNATIONAL units (not Levy, Pollack, etc). Broad spectrum of activity against both penicillins (penicillinase or Beta I activity) and cephalosporins (cephalosporinase or Beta II activity). > 500 Beta I Units / vial, > 50 Beta II Units / vial.
9. CONTENTS: per production, typical vial ranges around 150 mg of material.
10. Reconstitute one vial in 5 ml sterile water. Solutions are stable up to 4 weeks at 2-8'C when they are reconstituted in water.
11. We certify that the aforementioned product is derived from a microbial fermentation process, which contains no solvents in either the fermentation or formulation processes. Although the material has not been specifically tested, we are confident that there will be no organic volatile material contained in the B-Lactamase product.
12. The above product is supplied for research purposes and/or *in vitro* use only, and is not to be used in humans or animals.