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## Beta-lactamase

—Beta-lactamase is an enzyme produced by a variety of bacteria, but is usually obtained from culture filtrates of a strain of *Bacillus cereus*. It has the specific property of inactivating penicillins and cephalosporins by splitting the bond linking the nitrogen of the thiazolidine to the adjacent carbonyl carbon.

It occurs in the form of small, brown, easily pulverizable pieces or granules. Freely soluble in water, forming a slightly opalescent solution that is practically neutral to litmus paper. Is precipitated from its water solutions by acetone, by alcohol, and by dioxane, and is inactivated by contact with these solvents. Is rapidly inactivated by ethyl acetate and is irreversibly destroyed at a temperature of about 80°.

Beta-lactamase is assayed by a procedure depending upon a determination of the amount of penicillin G potassium or penicillin G sodium destroyed at a pH of 7.0 in a solution of such concentration that the inactivation proceeds as a zero-order reaction.

**Auxiliary Information** - Please [check for your question in the FAQs](#) before contacting USP.

Topic/Question	Contact	Expert Committee
BETA-LACTAMASE	<a href="#">Margareth R.C. Marques</a> Principal Scientific Liaison	HDQ Headquarters

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