Creative Enzymes®

Native Bacillus polymyxa Dispase II

Cat. No. NATE-0192

Lot. No. (See product label)

Introduction

Description	Dispase II is a neutral protease that hydrolyzes the N-terminal peptide bonds of non-polar amino acid residues. It may be used for separating many tissues and cells grown in vitro. The enzyme is very gentle and does not damage cell membranes. It can also be used to prevent clumping in suspension cultures. This protease cleaves fibronectin and type IV collagen, but not laminin, type V collagen, serum albumin, or transferrin. Dispase II is specific for the cleavage of Leucine-Phenylalanine bonds. Ca2+, Mg2+, Mn2+, Fe2+, Fe3+ and Al3+ activate the enzyme. EDTA, EGTA, Hg2+ and other heavy metals inhibit the enzyme activity. The enzyme contains 1g-atom of zinc per g-mol of purified enzyme. If this zinc component is removed by chelating agents such as EDTA or EGTA, an inactive apoenzyme is obtained. The enzyme is not inhibited by serum.
Applications	The enzyme has been used in developing a protocol for ex vivo culture of mouse embryonic mammary buds. It has been used in the treatment of rat heart pieces during the isolation of mitochondria from rat heart. It has also been used for the isolation of dental pulp stem cells (DPSCs) by enzymatic hydrolysis. These cells have been compared with DPSCs isolated by explant method to analyse their stem cell and differentiation properties.
Synonyms	Dispase II; Dispase; 42613-33-2; Protease from Bacillus polymyxa

Product Information

Source	Bacillus polymyxa
Form	lyophilized powder containing calcium acetate and milk sugar
CAS No.	42613-33-2
Activity	> 0.5 units/mg solid
Unit Definition	One unit will hydrolyze casein to produce color equivalent to 1.0 μmole (181 μg) of tyrosine per min at pH 7.5 at 37°C (color by Folin-Ciocalteu reagent), unless otherwise indicated.

Storage and Shipping Information

Storage	2-8°C