

[Go to Product page](#)

Datasheet for ABIN5706433

Neutral Protease Dispase®

Overview

Quantity:	50 mg
Reactivity:	Bacillus polymyxa

Product Details

Purification:	<p>Neutral protease (Dispase®) is purified and one unit releases one micromole of Folin positive amino acids, measured as tyrosine, at 37°C, pH 7.5, using casein as the substrate. The enzyme is known to contain 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. Calcium has been detected in the purified protein and is believed to play a role in maintaining the structure and configuration, and preventing autolysis. Neutral protease is a non-specific metalloprotease. It cleaves fibronectin, collagen IV, and to a lesser extent collagen I, but it does not cleave collagen V or laminin. It hydrolyzes N-terminal peptide bonds of non-polar amino acid residues and may preferentially attack denatured and intercellular proteins with exposed hydrophobic amino acid residues. It is believed to bind one zinc ion and four calcium ions per subunit. Unlike other Bacillus species that produce neutral, alkaline, or a mixture of both proteases, Paenibacillus polymyxa is one of three species that produces only a neutral protease.</p>
Unit Definition:	<p>One unit releases Folin positive amino acids equivalent to 1 µmole of tyrosine per minute from casein at 37°C, pH 7.5.</p>

Target Details

UniProt:	P29148
----------	------------------------

Application Details

Application Notes: Application Note: Neutral protease (Dispase®) is designed for primary cell isolation and tissue dissociation. It is commonly used to separate skin epidermis from dermis leaving intact epithelial sheets and stem cell, hepatocyte and other cell isolation applications. However, due to the diversity of the variables involved, exact isolation conditions should be determined empirically for each cell/tissue application. Expect a band approximately 36 kDa in size by western blot in the appropriate tissue or cell lysate. Specific conditions for reactivity should be optimized by the end user.

Comment: Synonyms: Paenibacillus polymyxa, beta-amylase, alpha-amylase, trypsin, Bacillus subtilis, Bacillus thermoproteolyticus, Bacillus megaterium, Bacillus cereus, Streptomyces griseus, Aspergillus oryzae, Serratia, Bacillus polymyxa, Bacillolysin

Background: Neutral protease (Dispase®) is a non-mammalian animal origin free metallo, neutral protease. Its mild proteolytic action makes the enzyme especially suitable for the preparation of primary cells and secondary (subcultivation) in cell culture since it is gentle on cell membranes. This protease is also used as a secondary enzyme in cell isolation and tissue dissociation applications, commonly used with collagenase. Neutral protease is an extremely stable Zn-metalloendopeptidase that is produced by Paenibacillus polymyxa. It is involved in the generation of beta- and alpha-amylases from the large amylase precursor. Although related to trypsin, neutral protease is significantly less harmful to cells and can help prevent unwanted cell clumping without cell membrane damage after one hour incubations. Neutral protease (Dispase®) is ideal for researchers focused in Stem Cell and Biomarker Research.

Gene Name: npr

Restrictions: For Research Use only

Handling

Format: Lyophilized

Reconstitution: Reconstitution Volume: 10.0 mL
Reconstitution Buffer: Restore with deionized water (or equivalent)

Concentration: ≥ 4 units/mg

Buffer: Buffer: None
Stabilizer: None

Preservative: Without preservative

Storage: 4 °C, -20 °C

Expiry Date: 12 months