Worthington Biochemical Corporation

NEUTRAL PROTEASE (DISPASE®)

Tissue Dissociation/Cell Isolation

PRODUCT HIGHLIGHT

Neutral protease (Dispase®) is an animal free metallo, neutral protease, purified by methods developed at Worthington. 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.

Description	Activity	Code	Catalog No.	Size
Neutral Protease (Dispase®), Purified Chromatographically purified. A lyophilized powder. Store at 2-8°C.	≥ 4 Units per mg dry weight	**NPRO**	LS02100 LS02104 LS02106 LS02108	10 mg 50 mg 250 mg Bulk
Neutral Protease, Partially Purified Partially purified. A lyophilized powder. Store at 2-8°C.	≥ 0.1 Units per mg dry weight	**NPRO2**	LS02110 LS02109 LS02111 LS02112	100 mg 1 gm 5 gm Bulk

Characteristics of Neutral Protease (Dispase®) from *Bacillus polymyxa*:

Molecular Weight: 36 kDa

pH Optimum: Stable over a wide pH range: 4.0-9.0, optimum pH 5.9-7.0.

Stability/Storage: Stable at 2-8°C for 12 months. Aliquot and store at -20°C after reconstitution with water or commonly used balanced salt solutions or media.

Unit Definition: One Unit releases one micromole of Folin positive amino acids per minute, measured as tyrosine, at 37°C, pH 7.5, using casein as the substrate.

Specificity: Non-specific cleavage of peptide bonds containing leucine and phenylalanine.

Activators: Divalent cations including Ca^{2+} , Mg^{2+}, Mn^{2+} and Fe^{2+}

Inhibitors: EDTA (1mM), EGTA, 1-10-phenanthroline and heavy metals

Application(s): 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.

See Worthington's Tissue Dissociation Guide for tissue and cell specific references, searchable at Worthington-Biochem.com utilizing NPRO and other cell isolation enzymes.

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Worthington-Biochem.com
ISO9001 Certified

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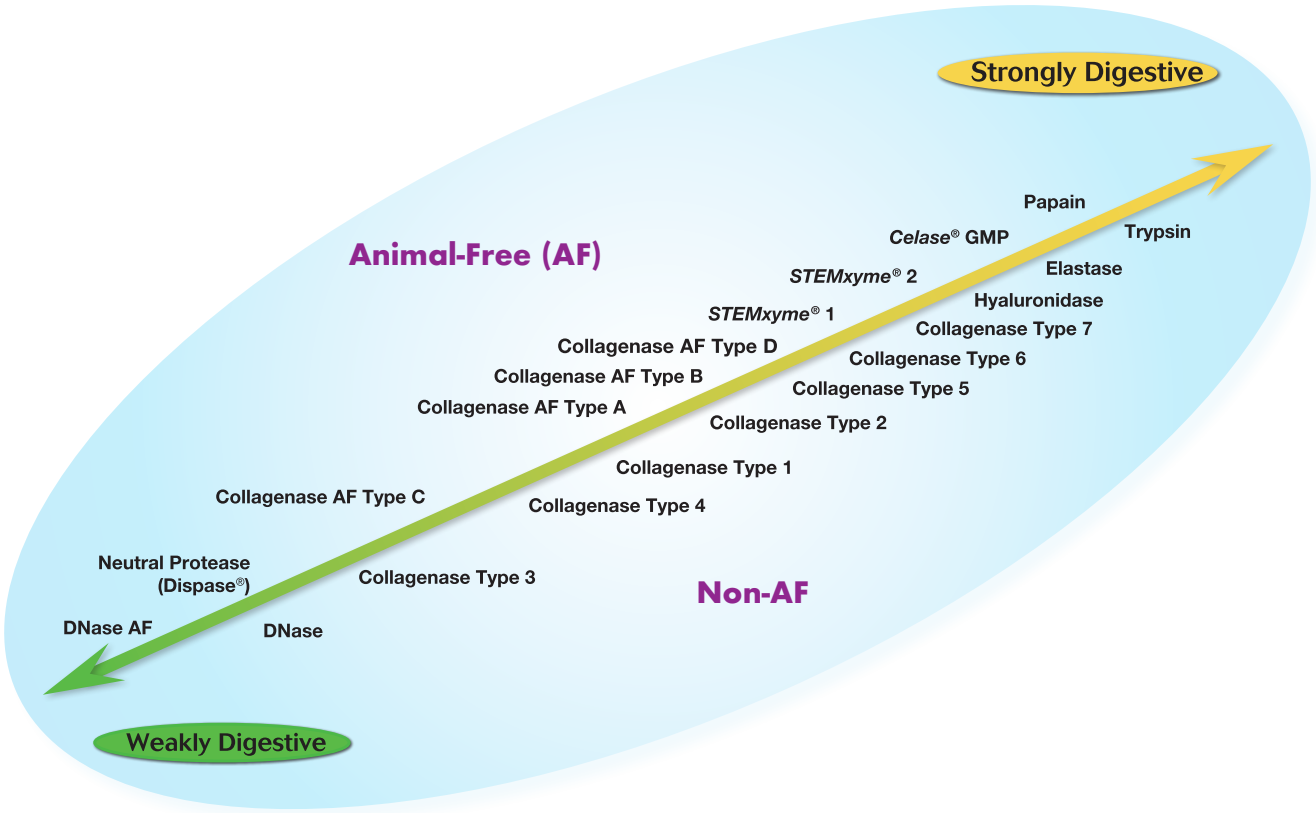
Worthington Primary Cell Isolation Enzyme Digestion Scale



Tissue dissociation/primary cell isolation and cell harvesting are principal applications for enzymes in tissue culture, stem cell research and cell biology studies. The goal of a cell isolation procedure is to maximize the yield of functionally viable, dissociated cells. There are many parameters which may affect the outcome. The choice of enzyme is an important parameter. Worthington's Tissue Dissociation Guide summarizes our knowledge of how these enzymes accomplish the "routine" operations of tissue dissociation and primary cell harvesting. This technical guide describes standard lab procedures; offers a logical experimental approach for establishing a cell isolation protocol; and lists many tissue specific references to aid development of an effective method. For more information, go to: TissueDissociation.com

For current citations in real-time, go to the online product listings and reference the Bioz Stars in the yellow highlighted area:
https://www.Worthington-Biochem.com/products

Related Products

Cell Isolation Optimizing System • Collagenase • Deoxyribonuclease I • Elastase • Hepatocyte Isolation System
Hyaluronidase • Neonatal Cardiomyocyte Isolation System • Papain • Papain Dissociation System • Proteinase K
STEMxyme® 1 & 2 Collagenase/Neutral Protease Blends • Trypsin • Trypsin Inhibitors

For Product Catalog, Tissue Dissociation Guide and Enzyme Manual, go to: Worthington-Biochem.com