

DNase I, ACF

Animal component-free DNase I for digestion of DNA



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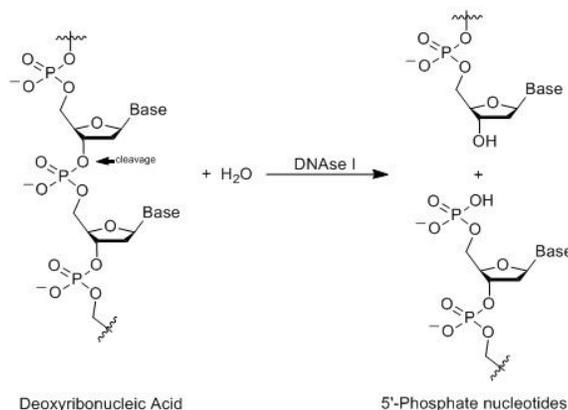
Catalog #07473 25,000 Units
Catalog #07474 100,000 Units
Catalog #100-0273 500,000 Units

Product Description

Deoxyribonuclease I (DNase I), Animal Component-Free (ACF) is obtained from cultures free of animal-derived materials and purified by chromatography. DNase I is an endonuclease consisting of a single glycosylated polypeptide chain with two disulfide bonds. DNase is often included in tissue dissociation protocols to digest DNA that has leaked into the dissociation medium as a result of cell damage. DNase I, ACF preferentially cleaves phosphodiester linkages adjacent to pyrimidine nucleotides in both single- and double-stranded DNA, yielding polynucleotides with 5'-phosphate and 3'-hydroxyl groups (Bernardi et al.). DNase I has been used for the dissociation of human tissues such as microglia (Klegeris & McGeer), cartilage (Dunham & Koch), colon (Fukushima & Fiocchi), epithelium (Fukushima & Fiocchi), liver (Vatakis et al.), lung (Fujino et al.), and neural (Fuja et al.), and for dissociation of stem cells (Kusuma et al.).

Product Information

Alternative Names: DNA endonuclease; DNA nuclease; Deoxyribonucleic phosphatase; Pancreatic DNase; Thymonuclease
Format: Lyophilized powder
Contains: May contain protease and RNase.
Storage: The final dialysis buffer prior to lyophilization is 10 mM calcium acetate, pH 5.0, containing glycine. Store at 2 - 8°C.
Stability: Stable as supplied for 12 months from date of receipt.
Reconstitution: DNase I, ACF can be reconstituted in a balanced salt solution or appropriate buffer of choice. Refer to Directions for Use for more information.
Molecular Weight: 29.1 kDa
CAS Number: 9003-98-9
Optimum pH: 7.8
Cleavage Site: DNase I preferentially cleaves phosphodiester linkages adjacent to a pyrimidine nucleotide. This yields 5'-phosphate terminated polynucleotides with a free hydroxyl group at the 3' position.



Cleavage site of DNase I

Please refer to the Safety Data Sheet (SDS) for hazard information.

Specifications

Source: *Pichia pastoris*
Activity: ≥ 2000 units/mg dry weight. See Notes for further information.

Directions for Use

DNase I, ACF can be reconstituted in sterile water or suitable buffers within a pH range of 4.5 - 9.0, such as neutral balanced salt solutions (e.g. Hanks' Balanced Salt Solution or non-phosphate buffers). The appropriate buffer depends on the specific application.

The recommended concentration of DNase I, ACF stock solution is 1 - 10 mg/mL.

For cell culture applications, it is recommended to sterilize the reconstituted solution using a 0.22 µm filter then aliquot and freeze at -20°C or -80°C. Avoid repeated freeze-thaw cycles of aliquots. Do not store reconstituted material at 2 - 8°C unless used immediately.

Notes

ACTIVITY UNITS

1 unit refers to the amount of DNase I required to act on 1 mg/mL of DNA (pH 5.0, 25°C) to produce an increase in absorbance of 0.001 per minute at a wavelength of 260 nm.

Related Products

For a complete list of dissociation reagents, as well as related products available from STEMCELL Technologies, visit www.stemcell.com, or contact us at techsupport@stemcell.com.

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