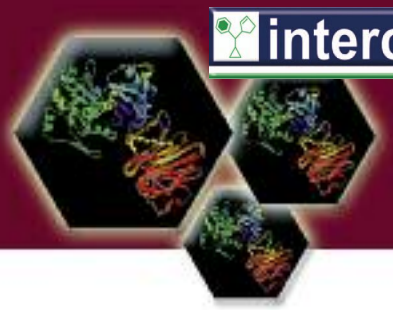

Worthington Biochemical Corporation

PRODUCT HIGHLIGHT

DEOXYRIBONUCLEASE I

Molecular Biology/Cell Biology

Worthington prepares Deoxyribonuclease I from bovine pancreas at different levels of purity to suit many different applications. Product Codes: DPRF and DPRFS are both especially designed for Molecular Biology applications and contain the lowest levels of ribonuclease and protease activity. They are both suitable for use in techniques requiring digestion of DNA in the recovery of intact RNA or where the integrity of structural proteins or enzymes must be maintained. Applications have included nick translation, DNA mapping, isolation of nuclear RNA and protein, plasmid construction, and RNA polymerase synthesis of RNA. Additional grades for other applications are listed below.

New **Recombinant DNase I**

Bovine pancreas is a rich source of RNase which is often found in many commercial DNase preparations. Producing DNase I by recombinant means in an organism with much lower levels of endogenous RNase greatly facilitates purification of an enzyme with undetectable levels of RNase. The processes involved in the production and isolation of recombinant DNase I are completely devoid of animal based components which eliminates the possibility of introducing animal derived pathogens into bioprocessing procedures. Recombinant DNase I is suitable for such applications as:

- Removing genomic DNA from RNA preparations prior to RT-PCR
- Degradation of DNA templates after transcription reactions
- Removing unwanted DNA from samples prior to Northern blotting
- Removing DNA during biopharma and bioprocessing procedures

Description	Activity*	Code	Cat #	Size	
DNase I, Recombinant, Produced in Pichia pastoris, Ribonuclease & Protease Free, Lyophilized Powder.	≥5000 Kunits units per mg protein	DRI NEW!	LS006361 LS006362 LS006360	10ku 50ku Bulk	 Inquire
DNase I, Recombinant, Produced in Pichia pastoris, Ribonuclease & Protease Free, Solution.	≥2 Kunits units per microliter	DRIS NEW!	LS006354 LS006356 LS006358	2ku 5 x 2ku Bulk	 Inquire
Free. Chromatographically purified to contain the lowest levels of RNase and protease activity; especially designed for the isolation of nuclear ribonucleic acids and proteins. **Lyophilized** preparation containing 2 mg glycine and 5 μmole calcium per 10,000 unit vial. Dissolving contents of vial in 5 ml gives the equivalent of a 1 mg/ml solution using weight concentrations as described in many protocols. Useful whenever ribonuclease or protease activity is a concern. Store at 2 - 8°C. Protect from moisture.	≥10,000 units per vial	DPRF	LS006331 LS006333	2,500 U 10,000 U	

(Over)

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Description	Activity	Code	Cat #	Size	____
Molecular Biology Grade, RNase and Protease Free. Same purity as DPRF. Supplied as a **solution** at 2 U/µl in 50% glycerol, 1 mM CaCl2. This product is the equivalent of 1mg/ml solution using weight concentrations as described in many protocols. Useful whenever ribonuclease or protease activity is a concern. Store at 2 - 8°C. (Storage at -20°C is acceptable.)	≥2,000 units per ml	DPRFS	LS006342 LS006344	100 U 500 U	
Chromatographically prepared especially for low (≤0.0005%) ribonuclease activity content. Lyophilized in vials containing 5 mg of enzyme and a glycine stabilizer. Store at 2 - 8°C. Protect from moisture.	≥2,000 units per mg dry weight	DPFF	LS006330 LS006328 LS006332	25 ku 125 ku Bulk	 Inquire
Prepared by column chromatography. Equivalent to 1X crystallized DNase. A lyophilized powder containing a small quantity of glycine stabilizer. Store at 2 - 8°C. Protect from moisture.	≥2,000 units per mg dry weight	D	LS002004 LS002006 LS002007 LS002009	5 m 20 mg 100 mg Bulk	 Inquire
Purified precrystalline DNase. A lyophilized powder suitable for tissue culture and cell isolation applications. Store at 2 - 8°C. Protect from moisture.	≥2,000 units per mg dry weight	DP	LS002138 LS002139 LS002140 LS002141	25 mg 100 mg 1 Gm Bulk	
Standard vial, containing a defined activity on the label. Single use vial for assay standardization. Store at 2 - 8°C.	≈ 2,000 units/vial	DSV	LS002173 LS002172	1 vial 5 vials	
0.22 µ filtered Code D. 11 mg (1,000,000 dornase units) of lyophilized DNase per vial. This preparation is suitable for tissue culture and cell isolation applications. 1 Kunitz unit ≈ 45.5 Dornase units. Store at 2 - 8°C. Protect from moisture.	≥2,000 units per mg dry weight	DCLS	LS002058 LS002060	11 m 25 mg	

Uses: In addition to applications involving molecular biology functions, DNase is also used in tissue culture work to digest DNA from damaged cells thereby reducing viscosity. Worthington Codes: DP and DCLS are suitable for this application.

Stability: When properly stored, all grades of Worthington deoxyribonuclease are stable for 2 - 3 years.

Storage: Recommended storage temperature for all grades of Worthington DNases is 2 - 8°C. Product code DPRFS may be stored at -20°C as well.

For long term storage in solution product codes D and DPFF may be dissolved in 5 mM acetate, 1 mM calcium, pH 4.5 and stored in single use aliquots at -20°C or -70°C for up to one year. Only freeze and thaw once; thawed aliquots are stable refrigerated at least several weeks.

Addition of 50% glycerol will maintain liquid state at -20°C without affecting stability and material in 50% glycerol can be removed and returned to -20°C repeatedly.

DPRF is unusually stable due to the absence of protease. For long term storage of DPRF after reconstitution, use water or any buffer pH 4.0 to 9.0 except phosphate; avoid calcium chelators; add 50% glycerol for storage as liquid at -20°C; aliquot in single use containers; only freeze and thaw once; thawed aliquots are stable refrigerated at least several weeks.

Unit Definition: 1 unit causes an increase in absorbance at 260 nm of 0.001 per min. per ml at 25°C when acting upon highly polymerized DNA at pH 5.0.

Note: Kunitz units as reported by other suppliers can be **2 to 4 times higher than Kunitz units as measured at Worthington.*

One Kunitz unit digests 1µg of calf thymus DNA in 10 minutes at 37°C in 50 mM Tris, 1 mM Ca^{+2}, and 1 mM Mg^{+2}, pH 7.8 . Correlation of digestion units with Kunitz units is different for other DNA and buffer systems, and is highly dependent on divalent metal ions and their concentrations.

Related Products

S1, S7 Nucleases, Nucleic Acids,
RNase A, RNase T1,
***E·RASE*™ RNase A/T1 Blend**

Complete Catalog, Tissue Dissociation Guide and Enzyme Manual available on-line at:
www.worthington-biochem.com