

For life science research only.
Not for use in diagnostic procedures.



DNase I

from bovine pancreas

 **Version: 19**

Content Version: December 2020

Deoxyribonuclease I

Cat. No. 11 284 932 001 100 mg
Not available in US

Store lyophilizate at +2 to +8°C.

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1. General Information

1.1. Contents

Vial / Bottle	Label	Function / Description	Content
1	DNase I	<ul style="list-style-type: none"> Lyophilized Filtered through 0.2 µm pore size membrane before lyophilization. Glycoprotein and double-strand-specific endonuclease. 	1 vial, 100 mg

1.2. Storage and Stability

Storage Conditions (Product)

When stored at +2 to +8°C, the lyophilizate is stable through the expiration date printed on the label.

Vial / Bottle	Label	Storage
1	DNase I	Store at +2 to +8°C.

Storage Conditions (Working Solution)

Store reconstituted solution in aliquots at –15 to –25°C.

⚠ Avoid repeated freezing and thawing.

Reconstitution

Reconstitute in sterile, double-distilled water to a final concentration of 10 mg/ml.

i Further dilution with PBS (phosphate buffered saline), HBSS, or medium.

1.3. Additional Equipment and Reagent required

For reconstitution of lyophilizate

- Sterile, double-distilled water
- PBS (phosphate buffered saline)
- HBSS (Hank's balanced salt solution)
- Culture medium

1.4. Application

DNase I can be used in several applications:

- Prevents unwanted cell clumping during tissue disaggregation procedures and during cell culture since it is included in the medium.
 - i** Has been proven to be non-cytotoxic in concentrations up to 1 mg/ml.
- Used in conjunction with other enzymes, such as Collagenase* or trypsin.

2. How to Use this Product

2.1. Before you Begin

General Considerations

Tissue disaggregation

During tissue disaggregation, an unwanted cell clumping can occur making a dispersion of single cells difficult. Since dissociation of tissue and isolation of single cells always is accompanied by rupture and lysis of some cells, DNA is released from these cells into the culture and dissociation medium respectively. Such a DNA content within the medium is described to be responsible for unwanted cell clumping during tissue disaggregation procedures. This effect can be avoided by adding deoxyribonuclease (DNase) to the dissociation medium and has been described for a variety of different cell and tissue types.

Safety Information

Laboratory procedures

- Handle all samples as if potentially infectious, using safe laboratory procedures. As the sensitivity and titer of potential pathogens in the sample material varies, the operator must optimize pathogen inactivation by the Lysis / Binding Buffer or take appropriate measures, according to local safety regulations.
- Do not eat, drink or smoke in the laboratory work area.
- Do not pipette by mouth.
- Wear protective disposable gloves, laboratory coats and eye protection, when handling samples and kit reagents.
- Wash hands thoroughly after handling samples and reagents.

Waste handling

- Discard unused reagents and waste in accordance with country, federal, state, and local regulations.
- Safety Data Sheets (SDS) are available online on dialog.roche.com, or upon request from the local Roche office.

2.2. Parameters

Activator

Requires bivalent metal cations for maximal activity (Ca^{2+} , Mg^{2+}).

EC-Number

EC 3.1.21.1

Inhibition

EDTA, EGTA, SDS

Molecular Weight

37,000 Da

Specific Activity

>2,000 U/mg (+25°C, DNA as substrate).

Unit Definition

1 U is the enzyme activity which yields an increase in absorbance of 0.001 per minute under the assay conditions.

Working Concentration

Use 0.01 to 1 mg/ml DNase I.

i For each cell type, the working concentration must be determined individually. For optimal enzyme activity, add 5 mM Mg^{2+} .

3. Additional Information on this Product

3.1. Test Principle









Preparation

DNase I is prepared from bovine pancreas.

4. Supplementary Information

4.1. Conventions

To make information consistent and easier to read, the following text conventions and symbols are used in this document to highlight important information:

Text convention and symbols	
 Information Note: Additional information about the current topic or procedure.	
 Important Note: Information critical to the success of the current procedure or use of the product.	
   etc.	Stages in a process that usually occur in the order listed.
   etc.	Steps in a procedure that must be performed in the order listed.
* (Asterisk)	The Asterisk denotes a product available from Roche Diagnostics.

4.2. Changes to previous version

Layout changes.

Editorial changes.

Update to include new safety Information to ensure handling according controlled conditions.

4.3. Ordering Information

Product	Pack Size	Cat. No.
Reagents, kits		
Collagenases	Collagenase A, 100 mg	10 103 578 001
	Collagenase B, 100 mg	11 088 807 001
	Collagenase D, 100 mg	11 088 858 001
	Collagenase A, 500 mg, <i>Not available in US</i>	10 103 586 001
	Collagenase B, 500 mg, <i>Not available in US</i>	11 088 815 001
	Collagenase D, 500 mg, <i>Not available in US</i>	11 088 866 001
	Collagenase A, 2.5 g	11 088 793 001
	Collagenase B, 2.5 g	11 088 831 001
	Collagenase D, 2.5 g	11 088 882 001
Collagenase H	100 mg	11 074 032 001
	500 mg	11 074 059 001
	2.5 g	11 087 789 001
Collagenase B	Collagenase B, 100 mg	11 088 807 001
	Collagenase B, 500 mg, <i>Not available in US</i>	11 088 815 001
	Collagenase B, 2.5 g	11 088 831 001
Collagenase D	Collagenase D, 100 mg	11 088 858 001
	Collagenase D, 500 mg, <i>Not available in US</i>	11 088 866 001
	Collagenase D, 2.5 g	11 088 882 001
Collagenase/Dispase®	100 mg	10 269 638 001
	500 mg	11 097 113 001
Collagenase P	100 mg	11 213 857 001
	500 mg, <i>Not available in US</i>	11 213 865 001
	1 g	11 249 002 001
	2.5 g	11 213 873 001

4.4. Trademarks

All product names and trademarks are the property of their respective owners.

4.5. License Disclaimer

For patent license limitations for individual products please refer to:

List of biochemical reagent products.

4.6. Regulatory Disclaimer

For life science research only. Not for use in diagnostic procedures.

4.7. Safety Data Sheet

Please follow the instructions in the Safety Data Sheet (SDS).

4.8. Contact and Support

To ask questions, solve problems, suggest enhancements or report new applications, please visit our **Online Technical Support Site.**

To call, write, fax, or email us, visit **sigma-aldrich.com**, and select your home country. Country-specific contact information will be displayed.

