# DNase (RNase-free)

Catalogue No.:abx098138

Deoxyribonuclease I (DNase I) digests single and double-stranded DNA to oligodeoxyribonucleotides containing a 5' phosphate. DNase I activated by $Mg^{2+}$ cleaves double-stranded DNA randomly at any site, while DNase I activated by $Mn^{2+}$ cleaves double-stranded DNA at approximately the same site to form sticky-ends with 1-2 nucleotide overhangs or blunt-ends.

Kit contents:

- DNase I (3 U/µl): 1500 U
- 10X DNase I Reaction Buffer: 2 × 1 ml
- 200 mM EDTA: 1 ml

| | |
|---|---|
| **Target:** | DNase |
| **Purity:** | Does not contain other DNA endonucleases and exonucleases. Does not contain RNase. |
| **Storage:** | Store at -20°C. Avoid repeated freeze/thaw cycles. |
| **Buffer:** | Storage Buffer: 50 mM Tris-acetate (pH 7.5), 10 mM $CaCl_2$, 50% (v/v) glycerol.<br>10X Reaction Buffer: 100 mM Tris-HCl (pH 7.5 @ 25 °C), 100 mM $MgCl_2$, 1 mM $CaCl_2$. |
| **Biological Activity:** | One unit (U) is defined as the amount of enzyme required for completely digesting 1 µg pBR322 DNA in 10 minutes at 37 °C.<br>Activity test conditions: 40 mM Tris-HCl (pH 8.0), 10 mM $MgSO_4$, 1 mM $CaCl_2$, 1 µg pBR322 DNA. |
| **Specificity:** | 32 kDa (monomer) |
| **Concentration:** | 3 U/µl |
| **Note:** | THIS PRODUCT IS FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC, THERAPEUTIC OR COSMETIC PROCEDURES. NOT FOR HUMAN OR ANIMAL CONSUMPTION.<br>This product is shipped with dry ice. |




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**Directions for use:** Assay Procedure:

1. Add the following components to an RNase-free microcentrifuge tube:

| Component | Volume |
|---|---|
| RNA | as required |
| 10X DNase I Reaction Buffer | 1 µl |
| DNase I | 1 U/µg RNA |
| RNase-Free Water | Up to 10 µl |

2. Incbate at 37 °C for 30 min.
3. Terminate the reaction by adding 0.5 µl of 200 mM EDTA solution.
4. Incubate at 65 °C for 10 min to inactivate DNase I.
5. The treated RNA sample is ready for reverse transcription.

Notes:

• Use 1 U of DNase I per µg of RNA. If the amount of RNA is less than 1 µg, use 1 U of DNase I.
• At least 1 mM EDTA is required for each 1 mM $Mg^{2+}$ to terminate the reaction. In the reaction system, the working concentration of $Mg^{2+}$ is 10 mM, so 0.5 µl of 200 mM EDTA is required to terminate the reaction. The final concentration of EDTA is 10 mM.




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