NZY DNase I

Catalogue number:

MB19901, 200 U

Description

NZY DNase I is a highly specific recombinant DNase from bovine pancreas recombinantly produced in *Pichia pastoris*. The enzyme is used for the efficient removal of contaminating DNA. RNA integrity is unchanged after treatment with NZY DNase I under recommended conditions, since it presents no detectable RNase activity.

Storage temperature

NZY DNase I is provided in a lyophilized form, which allows it to remain stable at room temperature. For maximal activity we recommend store at -20 °C upon arrival. After resuspension, store at -20 °C.

Preparation Protocol

NZY DNase I should be dissolved in 540 µL of RNase-free water. Incubate for 1 min at room temperature. Gently swirl the vial to completely dissolve the enzyme. NZY DNase I is sensitive to mechanical agitation. Dispense into aliquots and store at -20 °C. The frozen working solution is stable for 6 months. Do not freeze/thaw the aliquots more than three times.

Standard protocol for DNA digestion

In general, the commonly used RNA purification methods co-purify DNA to a considerable extent (e.g., phenol-based RNA purification). This often requires a subsequent removal of contaminating DNA and clean-up of the RNA from the reaction mixture. To remove DNA from such preparations please proceed as follows:

1. Prepare a 10x Buffer with 100 mM Tris-HCl, pH 7.6, 25 mM $MgCl_2$, 5 mM $CaCl_2$.
2. Prepare a reaction mixture with 1 µL of diluted enzyme and 10 µL of the 10x Buffer prepared as above.
3. Add a 1/10 volume of the enzyme:buffer reaction to the crude RNA solution (RNA solution should be free of RNase activity).
4. Incubate for 10 min at 37 °C.
5. Repurify the RNA following a suitable clean up procedure.

Quality control assays

Purity

NZY DNase I is >95% pure as judged by SDS polyacrylamide gel electrophoresis followed by BlueSafe staining (NZYTech, Cat. No. MB15201).

Nuclease assays

To test for RNase contamination, 1 µg of RNA is incubated with 1 µL of NZY DNase I for 1 hour at 37 °C. Following incubation, the nucleic acids are visualized on a GreenSafe-stained agarose gel. There must be no visible nicking or cutting of the RNA.

V2101

Certificate of Analysis

Test	Result
Enzyme purity	Pass
Nucleases contamination	Pass

Approved by:

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