MB199_IFU_EN_V2401

NZY DNase I

Catalogue number	Presentation
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.

Shipping & Storage Conditions

This product is shipped at room temperature. Upon arrival, this product can be stored from -15 °C to -25 °C and is stable till the expiry date if stored as specified. After resuspension, store from -15 °C to -25 °C.

Instructions for preparation

NZY DNase I should be dissolved in 110 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 from -15 °C to -25 °C. The frozen working solution is stable for 6 months. Do not freeze/thaw the aliquots more than three times.

After resuspension, NZY DNAse I can be used as component of NZY Total RNA Isolation kit (MB13402).

Standard Protocol

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 DNase I 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 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

Purity

NZY DNase I purity is >95% as judged by SDS polyacrylamide gel electrophoresis followed by Coomassie Blue staining.

Nuclease assays

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