

PRODUCT INFORMATION

dsDNase, heat labile, solution

Cat. No.: 18545

PRODUCT DESCRIPTION

General Endonuclease recombinantly produced in *Pichia pastoris* which cleaves phosphodiester bonds in DNA to yield oligonucleotides with 5'-phosphate and 3'-hydroxyl termini. Highly specific activity towards double-stranded DNA ensures that RNA and single-stranded DNA such as cDNA and primers are not cleaved. The enzyme is easily inactivated by moderate heat treatment.

Application

- Genomic DNA removal from RNA samples prior to first strand cDNA synthesis, RT-PCR and RT-qPCR
- Removal of DNA contamination from PCR and qPCR master mixes
- Reducing of background by removal of genomic DNA before Next Generation Sequencing

Features

- Supplied in 20 mM Tris-HCl pH 7.5, 2 mM MgCl₂, 10 mM NaCl, 0.01 % (v/v) Tween 20, 50 % (v/v) glycerol
- 5000-fold higher activity towards dsDNA than towards ssDNA
- Very high specific activity: ca. 200 000 Kunitz units/mg
- Irreversible inactivated by heat treatment in 5 – 15 min at 55 °C, 1 mM DTT, pH ≥ 8

Storage Store at -20 °C. The enzyme also tolerates multiple freeze-thaw cycles.

Activity

- Highly active in a temperature range of 20 °C – 40 °C
- Needs minimum 2.5 mM Mg²⁺ for activity, optimum pH: 7.5

Reaction conditions **Recommended protocol for removal of gDNA from RNA samples:**

- Add 0.1 U dsDNase/μl RNA sample (diluted in water) in presence of 3 mM MgCl₂ and 1 mM DTT
- Incubate at room temperature for 15 min
- Inactivate the dsDNase at 55°C for 10 min
- Run RT in the same tube or in two steps

Recommended protocol for decontamination of master mixes:

- Mix master mix, Taq polymerase, primers and probe, if possible, keep Mg²⁺ level > 3 mM and KCl level < 50 mM
- Add 1 U dsDNase/25 μl PCR reaction
- Incubate at 37 °C for 10 min
- Inactivate DNase by heating for 10 min at 55 °C
- Cool down and add template DNA
- Run your PCR

Unit definition: One unit is defined as an increase in absorbance at 260 nm of 0.001 per minute, using 50 mg/ml of high MW DNA in 50 mM Na-acetate pH 5.0 and 5 mM MgCl₂.

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