

DNase-S

Cat. No. 18540

Product Description:

General DNase-S is a recombinant endo-deoxyribonuclease of microbial origin. The enzyme digests all forms of DNA (single- and double-stranded, linear, circular and supercoiled) to the level of 5'-monophosphate-terminated deoxyoligonucleotides, 3 to 7 bases in length. Special features of DNase-S are the exceptionally high specific activity of 5×10^5 U/mg*, a broad pH optimum (7.5 - 10.0 % activity between pH 7.0 and 10.0), a temperature optimum of 65 °C and a tolerance to high salt concentration (1 M guanidine isothiocyanate, 1 M guanidine HCl). The enzyme is functional between pH 7 and 10 and from 4 – 75 °C and requires ≥ 50 mM $MgCl_2$ for activation. Activity is inhibited by EDTA (≥ 100 mM) and irreversibly inactivated by SDS (≥ 2 %).

Application DNase-S is qualified for use in

- Reduction of viscosity caused by nucleic acids
- Purification of proteins and other biologicals
- Sample preparation in electrophoresis and chromatography
- Removal of DNA contamination

Features

- Activity: min. 5×10^5 U/mg*
- Concentration: 50 – 100 U/ μ l
- Purity: ≥ 99 % (SDS-PAGE)
- Free of detectable proteolytic activity
- Tested for microbial contaminants
- Supplied as solution in: 10 mM Mops (pH 6.5), 40 mM $MgCl_2$, 0.3 M KCl, 50 % glycerol
- Supplied with DNase 5 x reaction buffer containing: 0.3 M $MgCl_2$, 50 mM Tris-HCl (pH 8.0)

Storage conditions DNase-S and DNase-S 5 x Reaction Buffer should be stored at -15 to -25 °C.

*: **Unit definition:** 1 U catalyzes an increase in absorbance of 1.0 (260 nm) within 30 min (37 °C, pH 8.0, 1 mg DNA/ml).

Instructions for use:

General DNase-S is applied for the removal of DNA from biological samples.

Reaction conditions For a 50 μ l reaction volume: Mix 1 μ l DNase-S, 10 μ l of 5 x reaction buffer, sample (x μ l) and sterile, deionized water (fill with y μ l to give 50 μ l); incubate the mixture at 37 $^{\circ}$ C for at least 10 min. Alternatively, incubate at room temperature (20 – 25 $^{\circ}$ C) for 15-30 min. Note: The amount of DNase-S required and the incubation time have to be optimized for each application. An increase of the incubation temperature under standard conditions from 37 $^{\circ}$ C to 45 $^{\circ}$ C or 55 $^{\circ}$ C (10 min) results in a two- or four-fold increase in enzyme activity, respectively.

Inactivation: DNase-S activity is inhibited by the addition of EDTA (\geq 100 mM). DNase-S is irreversibly inactivated by the addition of SDS (\geq 2% w/v).

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