

Ribonuclease A from bovine pancreas

Cat. No. 34388

Product Description:

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| General | RNase A is an endoribonuclease that attacks at the 3'-phosphate of a pyrimidine nucleotide. The sequence of pG-pG-pC-pA-pG will be cleaved to give pG-pG-pCp and A-pG. The highest activity is exhibited with ssRNA ¹ . |
| Application | <ul style="list-style-type: none"> • Plasmid and genomic DNA preparation • Removal of RNA from recombinant protein preparations. • Ribonuclease protection assays • Mapping single-base mutations in DNA or RNA |
| Features | <ul style="list-style-type: none"> • Activity: min. 80 Kunitz units/mg* • Purity: min. 90 % (ion exchange chromatography) • Free of detectable DNase and protease activity, not necessary to heat before use • Salt free, chromatographically homogeneous lyophilisate • Molecular weight (M_r): ca. 13700 (monomer) • Isoelectric point (pI): 9.6 • Optimal pH: 7.0 (activity range 6 - 10) |
| Stability and storage | RNase A is an extremely stable enzyme, remarkable resistant to heating. It readily renatures following treatment with most denaturing agents. The lyophilisate should be stored at +2 °C to +8 °C . Prepare stock solutions in TE buffer and store in aliquots at -20 °C. |
| Inhibition/Inactivation | Ribonuclease inhibitor, Vanadyl-ribonucleoside complexes, arabinonucleosides, Zn ²⁺ , Cu ²⁺ , penicillin, Vitamin B12, SDS, DEPC, 4 M guanidinium thiocyanate plus 0.1 M 2-mercaptoethanol. Most polyanions show some inhibitory effect. Inactivated by phenol/chloroform extraction. |
| Reaction conditions | Working concentration: 1 – 100 µg/ml (depending on application) The enzyme is active under a wide range of reaction conditions. At low salt concentrations (0 to 100 mM NaCl), RNase cleaves ss and dsRNA as well the RNA strand in RNA-DNA hybrids. At NaCl concentrations of 0.3 M or higher, RNase A specifically cleaves ssRNA ² . |

*Unit definition: 1 U is that amount of activity which is capable of causing within 1 minute a decrease in absorbance at 300 nm equivalent to the maximum possible change in a 0.05 % solution of yeast RNA at 25 °C, pH 5.0.

¹Burrell, M.M., Enzymes of Molecular Biology, Vol. 16, 263 – 270 (1993).

²Asubel, f. M., et al., Current Protocols in Molecular Biology, vol. 1, John Wiley & Sons, Inc., Brooklyn, NY, 3.13.1, 1994 - 2005

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