

Product Information

Anti-Nuclease P1 antibody produced in rabbit

IgG fraction of antiserum

Product Number **SAB4200752**

Product Description

Anti-Nuclease P1 is produced in rabbit using Nuclease P1 from *Penicillium citrinum* (N8630) as the immunogen. Whole antiserum is purified using protein A immobilized on agarose to provide the IgG fraction of antiserum.

Anti-Nuclease P1 recognizes Nuclease P1 from *Penicillium citrinum*. The antibody may be used in various immunochemical techniques including Immunoblotting (~30 kDa). Detection of the Nuclease P1 band by Immunoblotting is specifically inhibited by the immunogen.

Nuclease P1 (Nuclease 5'-Nucleotidohydrolase, 3'-Phosphohydrolase, EC 3.1.30.1), also known as Deoxyribonuclease P1 or Endonuclease P1, is a zinc-dependent endonuclease which hydrolyzes 3'-5' phosphodiester bonds in RNA and single-stranded DNA and 3'-phosphomonoester bonds in mono- and oligonucleotides terminated by a 3'-phosphate group without apparent bases specificity. Nuclease P1 does not attack double-stranded nucleic acids, 5'-nucleotides, p-nitrophenylphosphate, bis-p-nitrophenylphosphate nor 3', 5'-cyclic AMP.¹⁻⁴

Nuclease P1 is used as a component of nucleases cocktail to generate single-stranded oligodeoxynucleotides (ODNs) samples for MS research including for quantification of damaged lesions in the genome⁵ or characterization of oligodeoxyribonucleotides⁶.

Nuclease P1 has also been widely used in the food industry to enhance or create flavor.⁷⁻⁸ For instance, the addition of Nuclease P1 during the production of baker's yeast results in hydrolysis of yeast RNA into 5'-GMP. 5'-GMP acts synergistically with monosodium glutamate and may replace monosodium glutamate in various food products, thus improving the flavor properties of the food product.⁹

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline pH 7.4, containing 15 mM sodium azide as a preservative.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation. Discard working dilution samples if not used within 12 hours.

Product Profile

Immunoblotting: a working dilution of 1:10,000-1:20,000 is recommended using Nuclease P1 from *Penicillium citrinum*.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

References

1. Martin SA., et al., *Biochimica et Biophysica Acta (BBA)-Gene Structure and Expression*, **867**, 76-80 (1986).
2. Shishido K., and Ando T., *Cold Spring Harbor Monograph Series*, **14**, 155-85 (1982).
3. Fujimoto, M., et al., *Agr Biol Chem.*, **38**, 785-90 (1974).
4. Liao RZ., et al., *Inorg Chem.*, **49**, 6883-8 (2010).
5. Chen X., et al., *New J Chem.*, **37**, 3440-9 (2013).
6. Williams RT., et al., *Clin Chim Acta.*, **420**, 160-70 (2013).
7. Okado N., et al., *Food Chem Toxicol.*, **88**, 21-31 (2016).
8. Guo-Qing Y., et al. *Process Biochem.*, **41**, 1276-81 (2006).
9. Shi Lu-E., et al., *Braz J Chem Engin.*, **27**, 31-9 (2010).

SG,DR_LV/OKF,PHC 06/17-1