PROTEINASE K FS-M-112

Description:

Proteinase K is a stable serine protease with broad substrate specificity.
It degrades many proteins in the native state even in the presence of detergents.Evidence from crystal and molecular structure studies indicates the enzyme belongs to the subtilisin family with an activesitecatalytic triad (Asp39, His69, Ser224). The predominant site of cleavage is the peptide bond adjacent to the carboxyl group of aliphatic and aromatic amino acids with blocked alpha amino groups. It is commonly used for its broad specificity. The mode and specificity of action has been studied.
Proteinase K is frequently used in molecular biology applications to digest unwanted proteins, such as nucleases from DNA or RNA preparations from microorganisms, cultured cells, and plants.

The enzyme is typically used at **50–200 µg/ml** in nucleic acid preparations at pH 7.5–8.0 and 37°C. Incubation times vary from 30 minutes to 18 hours. Proteinase K is usually denatured by subsequent phenol extractions, although it can autodigest during long incubations.

Proteinase K is active in 1% Triton X-100 and fully active in 0.5% (w/v) SDS.

SDS and urea will denature protein substrates resulting in increased digestion rates.

Proteinase K itself is denatured much more slowly by these agents.

Unit Definition: One unit will hydrolyze urea-denatured hemoglobin to produce color equivalent to 1.0 umole (181 µg) of tyrosine per minute at pH7.5 at 37°C.
Dilution Buffer: 50 mM Tris-Cl (pH 8.0), 2 mM $CaCl_2$,50% Glycerol.

Size: 100 mg

Biological Grade: Ultrapure,for Molecular Biology

Purity: ≧99%

Specific activity: ≧40 units/mg of protein

CAS#: 39450-01-6

DNase – none detected

RNase – none detected

Endonuclease (nickase) – none detected

Store: At 4°C . For long storage at-20°C

Expiration date: 24 months from receipt

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