

Recombinant Proteinase K (Ready to use)

Cat# YPE-PK-001, YPE-PK-010, YPE-PK-100

Source: Recombinant proteinase K expressed in Yeast.

Storage Condition: 4 degrees C or room temperature for 1 year.

Physical Appearance: Liquid

Shipping Condition: RT

Instructions

1) Technical specifications

Format: Ready-to-Use Solution

Cat#: YPE-PK-001 (1mL)

YPE-PK-010 (10mL)

YPE-PK-100 (100mL)

Amount & Activity: Concentration 20mg/mL,
>600mAU/mL

Proteinase K is widely used in various molecular biology and biochemistry applications due to its ability to effectively digest proteins without being hindered by the protein's native structure. It's commonly utilized in DNA and RNA extraction protocols, as well as in removing protein contaminants from nucleic acid samples.

2) Suggested Work Concentration: 0.05-1mg/mL

Note: Proteinase K interacts with nucleases. To ensure maximum Proteinase K activity, use water that has been treated with 0.1% DEPC if you dilute use

Description

Proteinase K is classified as a serine protease and falls under the Peptidase family S8. Serine proteases are enzymes that utilize a serine residue in their active site for proteolysis. Proteinase K exhibits broad substrate specificity, meaning it can cleave a wide range of peptide bonds in proteins. This characteristic makes it valuable for various applications, including protein purification and DNA extraction. One of the notable features of Proteinase K is its ability to degrade proteins even in their native, folded state. This is unlike many other proteases that require denaturation of proteins before cleaving peptide bonds. Proteinase K can be inhibited by serine protease inhibitors such as phenylmethylsulfonyl fluoride (PMSF). These inhibitors bind to the active site serine residue and prevent enzymatic activity. Unlike some other proteases, Proteinase K's activity is unaffected by sulfhydryl modifying reagents. These reagents typically target cysteine residues, but Proteinase K's catalytic activity is not dependent on such residues. EDTA (ethylenediaminetetraacetic acid) is a chelating agent commonly used to sequester metal ions. The statement suggests that Proteinase K remains stable when stored or used in a buffer containing EDTA. This stability is important to maintain the enzyme's activity.