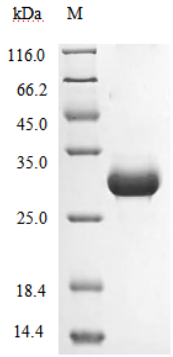
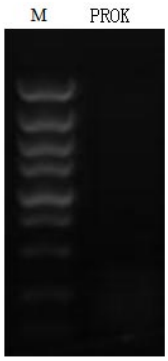
Proteinase K Recombinant Protein

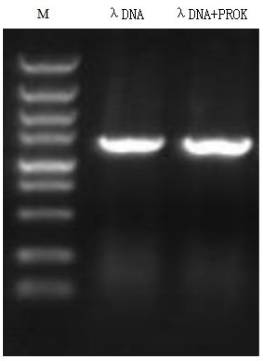
Product Code	CSB-AP361972TIQ
Relevance	Proteinase K is an extracellular serine endoproteinase produced by Tritirachium album Limber.Proteinase K belongs to the peptidase family S8.Its predominant cleavage site is the peptide bond adjacent to the carboxyl group of aliphatic and aromatic amino acids with blocked α-amino groups.Proteinase K is a broad-spectrum protease that functions at wide pH and temperature ranges.The optimum pH and temperature for the activity of this protease were approximately pH 7.5-8.0 and 55°C, respectively. In addition,0.2-1% sodium dodecyl sulfate (SDS) and 10mM carbamide can activate its activity. The combination of these unique features makes Proteinase K as an important tool in scientific research and molecular diagnosis. Proteinase K can be used in the preparation of biological macromolecules by degrading the constitutive proteins of cells and removing nucleases such as DNases and RNases for RT-PCR.In nucleic acid vaccine and molecular diagnosis,it is also widely used for degrading proteinaceous impurities during the isolation of nucleic acids from biological samples.
Abbreviation	Recombinant Tritirachium album proteinase K protein
Storage	Store at -20°C upon receipt, aliquoting is necessary for mutiple use. Avoid repeated freeze-thaw cycles.
Uniprot No.	P06873
Form	Lyophilized powder
Product Type	Others
Immunogen Species	Tritirachium album (Engyodontium album)
Biological Activity	Using the absorbance A275 as the vertical axis and different concentrations of tyrosine as the horizontal axis, a standard curve was drawn, and the enzyme activity was calculated ?30U/mg.
Purity	Greater than 95% as determined by SDS-PAGE.
Target Names	PROK
Notes	Repeated freezing and thawing is not recommended.
Mol. Weight	28.9 kDa
Image	



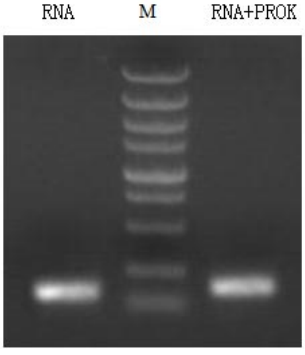
SDS-PAGE
(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.
According to the left SDS-PAGE image, the purity of Proteinase K is 95%+ and the molecular weight is 28.9 kDa.



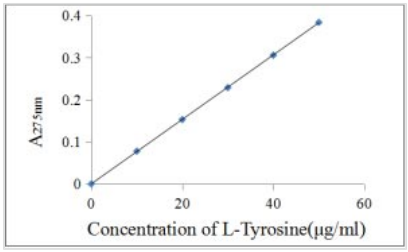
Detect Nucleic acid residue by agarose gel electrophores



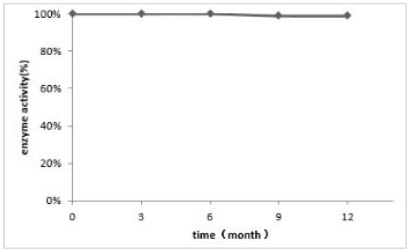
Detect DNase residue by agarose gel electrophores



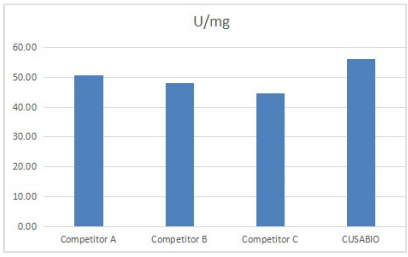
Detect RNase residue by agarose gel electrophores



Using the absorbance A275 as the vertical axis and different concentrations of tyrosine as the horizontal axis, a standard curve was drawn, and the enzyme activity was calculated ?30U/mg.
Unit definition:One unit is defined as the amount of enzyme that catalyzes the formation of 1 umol of tyrosine per minute at pH 7.5 at 37°C



The Enzyme Activity Stability of Proteinase K
The Proteinase K powder was stored at 4?. And its enzyme activity was assayed every month over the past year.
The left chart shows how its enzyme activity changes in a year. It turns out the enzyme activity is maintained more than 95%, which indicates that proteinase K is very stable.



The Proteinase K activity comparison of 3 vendors and CUSABIO
CUSABIO performed a Proteinase K activity comparison test. As the left chart shows, the activity of CUSABIO Proteinase K is better than that of the 3 vendors under the same testing conditions.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

Shelf Life

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself.
Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.