



Recombinant Tritirachium album Proteinase K(PROK)(Active)

Catalog Number: CSB-AP361972TIQ

Product Name	Proteinase K Recombinant Protein
Catalog Number	CSB-AP361972TIQ
Buffer	Lyophilized from 20mM Tris-HCl, 6% Trehalose, pH 7.5
Storage	The shelf life of the lyophilized form is 24 months at -20°C/-80°C, 18 months at 4°C, and 12 months at room temperature.
Notes	Repeated freezing and thawing is not recommended.
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.
References	"Proteinase K from Tritirachium album Limber. Characterization of the chromosomal gene and expression of the cDNA in Escherichia coli." Gunkel F.A., Gassen H.G. Eur. J. Biochem. 179:185-194(1989)



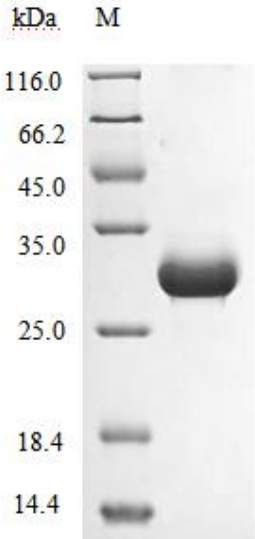
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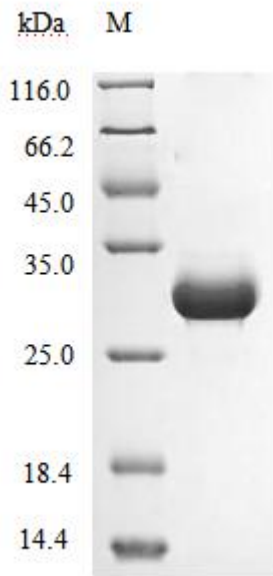


Certificate of Analysis

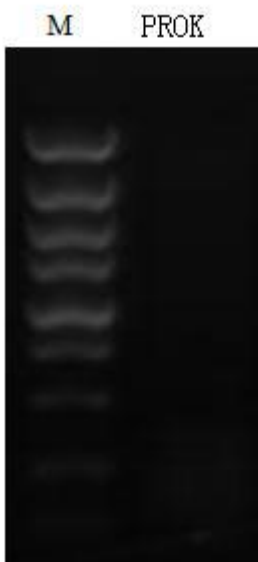
Product Name	Proteinase K Recombinant Protein	
Catalog Number	CSB-AP361972TIQ	
Buffer	Lyophilized from 20mM Tris-HCl, 6% Trehalose, pH 7.5	
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized 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.	
Batch Number	DA04579a1g0	
Nature	Tritirachium album PROK- P06873	
Purification	Affinity purified using AC	
Recommended Storage	Short term	2 to 8 °C, 12 months from the date of receipt
	Long term	-20 to -80 °C, 24 months from the date of receipt
Form	Lyophilized powder	
Date of detection	2020.07.17	
Test Items	Specifications	Results
Purity	≥95%, by SDS-PAGE quantitative densitometry by Coomassie Blue Staining.	
Molecular Weight	Predicted band size: 28.9kDa	



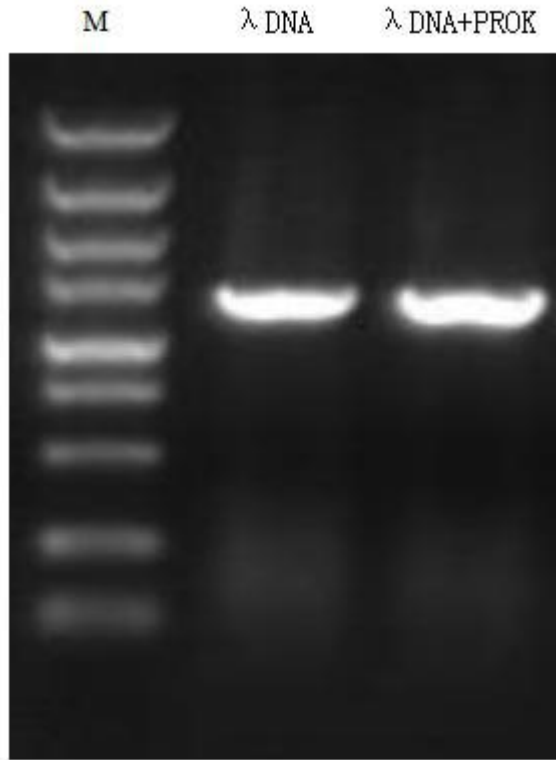
Electrophoretic parameters	(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.		
Aseptic Processing	Not done		
Endotoxin Level	Untreated		
Specific Enzyme Activity	> 30U/mg	pass	
DNA and RNA Contaminants assay	None detected	pass	
DNase Contaminants assay	None detected	pass	
RNase Contaminants assay	None detected	pass	
Conclusion	pass		
Analyst		Date	
Corrector		Date	

**Validated Data**

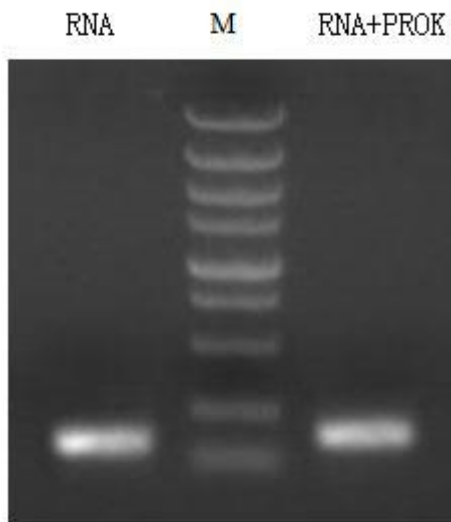
(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.



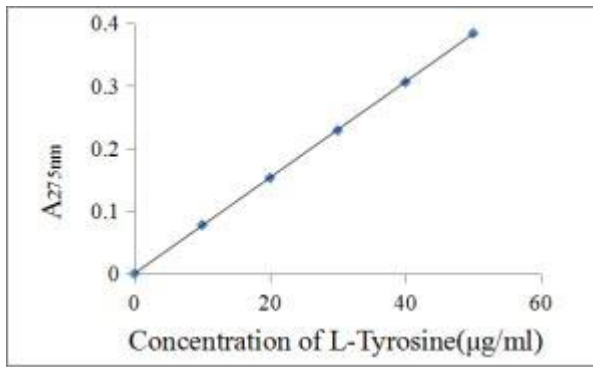
Detect Nucleic acid residue by agarose gel electrophores



Detect DNase residue by agarose gel electrophores

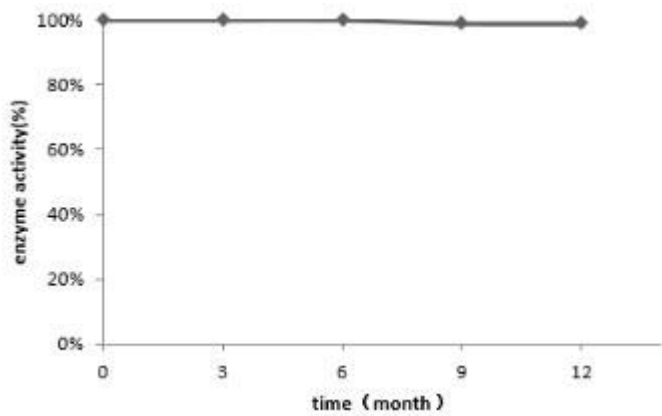


Detect RNase residue by agarose gel electrophores

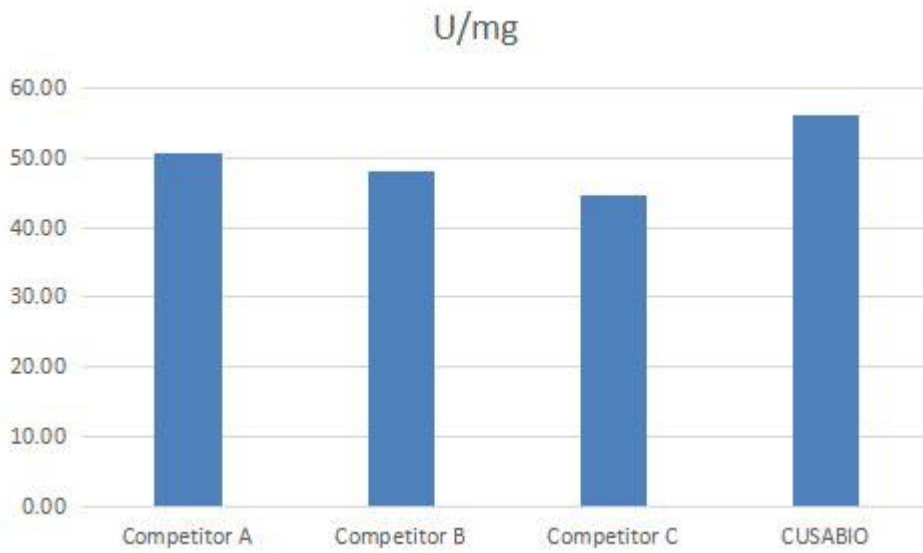


Using the absorbance A₂₇₅ as the vertical axis and different concentrations of tyrosine as the horizontal axis, a standard curve was drawn, and the enzyme activity was calculated > 30U/mg.

Unit definition: One unit is defined as the amount of enzyme that catalyzes the formation of 1 µmol of tyrosine per minute at pH 7.5 at 37°C



The proteinase K powder was stored at 4°C for one year. Enzymetic activities were assayed every month during one year. It indicates that proteinase K is stable and enzyme activity is maintained more than 95%.



Activity measurements from cusabio were compared to from three other vendors. Proteinase K from cusabio is better than other vendors.