

Certificate of Analysis

Product Name: Proteinase K (E.C.: 3.4.21.64)

Catalog No.: Z5050002

Form: White Powder, Lyophilized from purified solids or liquid enzyme

Source: *Tritirachium album limber*, Recombinant.

Specific Activity: 40U/mg protein or 20 U/mg dry weights

Package: 100mg/Bottle or customer packing

Molecular Weight: 29,730 D

Shipping Condition: Room Temperature

Storage Condition: Store at -20°C recommended although Proteinase K is stable as a dry powder at room temperature in one year.

Shelf Life: one year of powder and six months of liquid at 4°C.

Dilution Buffer: 50mM Tris-HCL (pH8.0), 1mM CaCl₂.

QC Assays:

Activity Assay and Unit Definitions: Protocol from Sigma-Aldrich. One unit is defined as the amount of enzyme that will liberate 1 μmol of tyrosine per minute at 37° C, pH7.5.

DNase Activity: none detectable enzyme activity with λ DNA after 6 hours incubation at 37°C.

RNase Activity: none detectable of ribnuclease activity after 16 hours incubation at 25 ° C

Protein Purity: over 99% (Native-PAGE assay)

Applications:

Proteinase K is a broad substrate non-specific serine Proteinase. It is active over the pH range 7-12. It was used on isolating mRNA, genomic DNA and digesting unwanted proteins during DNA and RNA preparations from different kinds of cells. It's been used on glycoprotein modification and protein structure studies also. Proteinase K is active with SDS, urea and EDTA.

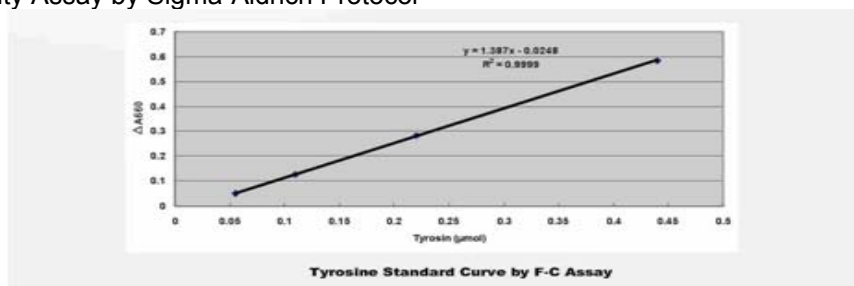
References:

1, Kraus, E; et.al. Proteinase K from the Mold *Tritirachium album limber*, Specificity and Mode of Action. Z. Physiol. Chem., 357:939;1976.

2, Jany,KD, et al. Amino Acid Sequence of Proteinase K from the Mold, *Tritirachium album limber*. Proteinase K; a Subtilisin-related Enzyme with Disulfide Bonds. FEBS Letter, 199,139.1986.

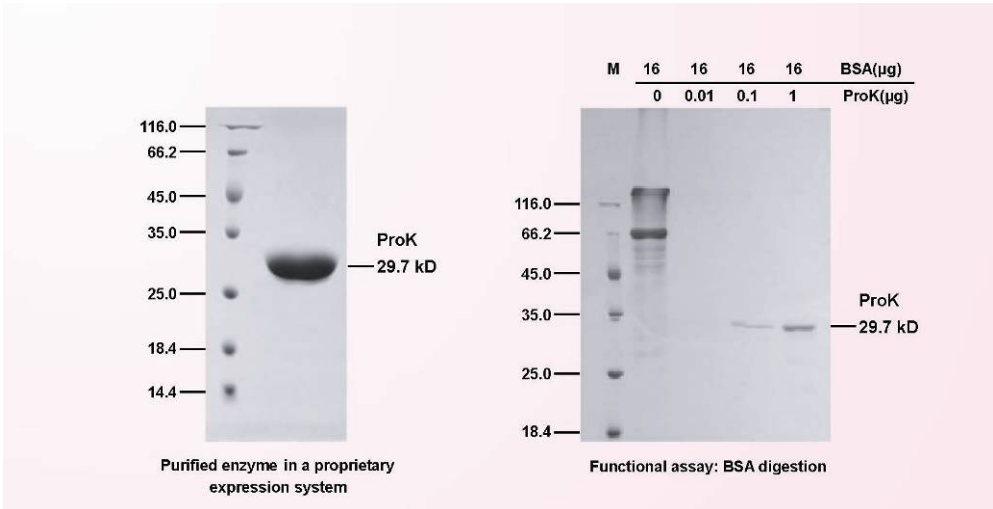
Proteinase K Quality Control Assays

(1) Enzyme Activity Assay by Sigma-Aldrich Protocol



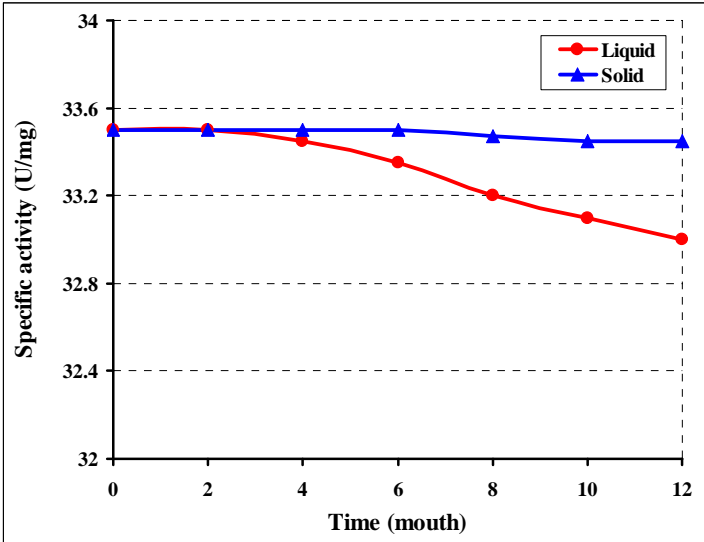
Result: Biochain's Proteinase K activity: 49.5U/mg; Vendor M's: 33.5U/mg Protein

(2) Purity Assay by SDS-PAGE and Native PAGE



Result: Protein purity is over 99% by laser-scanning of SDS-PAGE gel and native gel (see above)

(3) Product Stability Assay (One year data)



FOR IN VITRO RESEARCH USE ONLY

APPROVED BY:

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Active Date: 09172012