

Proteinase K, Active (MBG)

Recombinant *P. album* protein expressed in yeast cells

Catalog # P535-30N

Lot # N3677-2

Product Description

Molecular Biology Grade, recombinant subtilisin-related serine protease K (Proteinase K) from *Parengyodontium album* (*tritirachium album*) is expressed in *Pichia pastoris* and purified by extensive chromatography. This broad-spectrum endopeptidase is widely used for digestions of proteins, including DNase and RNase, in nucleic acid preparations.

Appearance

White lyophilized powder

Storage Buffer

Protease K protein may be stored in a solution of 50 mM Tris-HCl, pH 7.8, 3 mM CaCl₂, 50% glycerol for long-term storage at -20°C.

Working Buffer

Protease K protein may be dissolved in a solution of 50 mM Tris-HCl, pH 7.8, 3 mM CaCl₂ for immediate use.

Storage and Stability

Store product at -20°C as a powder, or as a stock solution in 50% glycerol, prepared as described above under storage buffer preparation.

Quality Control

DNase Free
RNase Free
≤ 10 pg DNA/mg (qPCR)

Purity

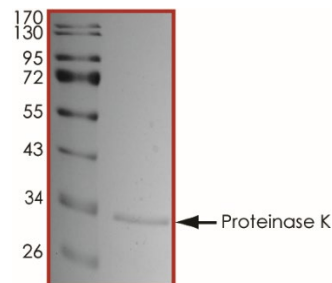


Figure 1. SDS-PAGE gel image

The purity of Proteinase K was determined to be **>90%** by densitometry, approx. MW **29 kDa**.

Activity

One unit of Proteinase K hydrolyzes urea-denatured hemoglobin producing colour equivalent of 1 μmol tyrosine per 1 min at 37°C and pH 7.5 (Folin & Ciocalteu's method), 1U = 1 mAnsonU.

Proteinase K, Active

Recombinant *P. album* protein expressed in yeast cells

Catalog Number	P535-30N
Lot #	N3677-2
Activity	≥ 30 U/mg lyophilized protein ≥ 40 U/mg protein
Protein content	≥ 70%
Solubility	≥ 20 mg/ml in water
Stability	2yr at -20°C from date of shipment.
Shipping	Ambient temperature

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SAFETY DATA SHEET

Article 1 - Product Identification

Product Name: Proteinase K, Active

Catalog # P535-30N

This product is sold only for research use by qualified laboratory personnel, and is not to be used as a drug, medical device, food additive, cosmetic, nor household chemical. It is not to be used in diagnostic, therapeutic, consumer, agricultural, nor pesticidal applications.

Manufacturer's Name: SignalChem Biotech Inc.
 Street Address: 110-13120 Vanier Place
 City, Prov. Postal Code: Richmond, BC, V6V 2J2
 Fax: 604-232-4601
 EMERGENCY PHONE: 604-232-4600

Article 2 - Hazards Identification

GHS Classification: Classification according to Regulation (EC) No 1272/2008

Potential health effects:

Inhalation:



GHS08

H334 + H335 – May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation

Skin



GHS07

H315 – Causes skin irritation

Eyes

H319 – Causes serious eye irritation

Ingestion

H303 – May be harmful if swallowed

Precautionary Statements:

Inhalation:

P304+P312 – If inhaled, remove to fresh air. Consult a physician if necessary.

Skin

P302+P352+P312 – If on skin, wash with soap and plenty of water. Consult a physician if necessary

Eyes

P305+P351+P338 – Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

P301+P312 – Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician if necessary.

Article 3 - Composition/Information on Ingredients

Common Name	Chemical Name/Formula	CAS-No.	Concentration
Proteinase K	Proteinase, <i>Tritirachium album</i> serine	39450-01-06	≤100%

Article 4 - First-aid Measures

- **General information:** Consult a physician by providing the SDS.
- **After inhalation:** Breathe in fresh air. If cannot breathe, give artificial respiration and consult a physician.
- **After skin contact:** Immediately wash with soap and plenty of water and rinse thoroughly. Consult a physician.
- **After eye contact:** Rinse opened eyes with plenty of water for at least 15 minutes. Consult a physician.
- **After swallowing:** Rinse the mouth with plenty of water and consult a physician.

Article 5 - Fire-fighting Measures

- **Suitable extinguishing media:** Use water spray, extinguishing powder, carbon dioxide, or other appropriate measure that is suitable to the environment.
- **Specific hazards arising from the substance or mixture:** Combustible
- **Special protective equipment and precautions for fire-fighters:** Self-contained breathing apparatus if necessary.

Article 6 – Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures:** Apply standard laboratory practices and personal protective equipment. Avoid formation of dust. Do not inhale dust. Avoid substance contact. Ensure adequate ventilation.
- **Environmental precautions:** Do not allow to enter drains.
- **Methods and materials for containment and cleaning up:** Pick up mechanically. Avoid generation of dusts. Ensure adequate ventilation. Dispose contaminated material as waste according to Article 13. Clean up affected area.

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Article 7 - Handling and Storage

- **Precautions for safe handling:** Ensure good ventilation/exhaustion. Prevent formation of dust. Any unavoidable deposit of dust must be regularly removed.
- **Conditions for safe storage:** Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature: -20 °C.

Article 8 - Exposure Controls/Personal Protection

- **Appropriate engineering controls:**
Apply adequate ventilation including mechanical exhaust or laboratory fume hood. Follow standard laboratory practices.
- **Individual protection measures:**
 - Respiratory protection:**
Ensure adequate ventilation, especially in confined areas. In case of brief exposure or low pollution, use respiratory filter device. In case of intensive or longer exposure, use self-contained respiratory protective device.
 - Skin/body protection:**
Wear protective gloves and clothing. Use proper glove removal technique to avoid skin contact. Discard gloves after use by following the applicable laboratory regulations. Wash and dry hands.
 - Eye/face protection:**
Safety glasses with side-shields (or goggles) approved under appropriate government standards.
 - General hygiene considerations:**
Handle in accordance with good industrial hygiene and safety practice.

Article 9 – Physical and Chemical Properties

Appearance: White powder	Danger of explosion: No data available.
Odour/Odour Threshold: Odorless	Explosion limits: Not an explosion hazard.
pH: 6.2-6.8	Decomposition temperature: No data available.
Melting point/freezing point: Not determined.	Vapor pressure at 20 °C: No data available
Boiling point/Boiling range: Not determined.	Density: Not determined.
Flash point: No data available.	Relative density: Not determined.
Flammability (solid, gaseous): Not flammable.	Vapor density: Not determined.
Ignition temperature: No data available.	Evaporation rate: No data available.
Auto-igniting: No data available.	Solubility in / Miscibility with Water: Soluble.

Article 10 - Stability and Reactivity

- **Reactivity:** No data available.
- **Chemical stability:** No data available.
- **Possible hazardous reactions:** No dangerous reactions known.
- **Conditions to avoid:** No data available.
- **Incompatible materials:** No data available.
- **Hazardous decomposition products:** No data available.

Article 11 - Toxicological Information

- **Acute toxicity:** Product does not present an acute toxicity hazard based on known or supplied information.
- **LD/LC50:** Not available.
- **Skin corrosion/irritation:** Irritant to skin and mucous membranes
- **Serious eye damage/eye irritation:** Irritant effect
- **Respiratory or skin sensitization:** Not available.
- **Germ cell mutagenicity:** Not available.
- **Carcinogenicity:** No components are listed in IARC, or NTP, or OSHA, or ACGIH.
- **Reproductive toxicity:** Not available.
- **Teratogenicity:** Not available.
- **Specific target organ toxicity - single exposure/ - repeated exposure (GHS):** Not available.
- **Aspiration hazard:** Not available.
- **Potential health effects:**
 - Inhalation:** May be harmful if inhaled. May cause respiratory tract irritation.
 - Ingestion:** May be harmful if swallowed.
 - Skin:** Irritant to skin and mucous membranes
 - Eyes:** May cause eye irritation.
- **Signs and Symptoms of Exposure:** Not available.
- **Synergistic effects:** Not available.

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Article 12 - Ecological Information

- **Eco-toxicity:** No data available.
- **Biodegradability:** No data available.
- **Bio-accumulative potential:** No data available.
- **Mobility in soil:** No data available.
- **PBT and vPvB assessment:** Not applicable.
- **Other adverse effects:** No data available.

Article 13 - Disposal Considerations

- **Disposal methods:** Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Contaminated packaging:** Disposal should be made in accordance to official regulations. Use water or cleansing agents to clean the area.

Article 14 - Transport Information

- **DOT:** Not dangerous goods.
- **IMDG:** Not dangerous goods.
- **IATA:** Not dangerous goods.

Article 15 - Regulatory Information

Safety, health, and environmental regulations/legislation specific for the substance or mixture.

Canadian substance listings:

- **WHMIS Classification:** Non-hazardous.
- **GHS label elements:** Not applicable.
- **Signal word:** Not applicable.
- **Hazard statements:** Not applicable.

Article 16 - Other Information

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. SignalChem shall not be held liable for any damage resulting from handling or from contact with the above product. See the Technical Specification, Packing Slip, Invoice, and Product Catalog for additional terms and conditions of sale.

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