

QIAGEN[®] Protease

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Description

For Laboratory Use

QIAGEN Protease is a broad specificity serine protease with high activity under a wide range of conditions. It is isolated from a recombinant Bacillus strain and provides an economical alternative to Proteinase K for use in isolation of DNA and RNA from blood, tissues, and cultured cells.

QIAGEN Protease is supplied for use with a range of QIAGEN DNA isolation kits. It is supplied in a lyophilized form, and must be reconstituted by the user. The volume of water required for reconstitution depends on the DNA isolation kit used.

Users of the QIAamp[®] BioRobot[®] Kits should reconstitute each vial of QIAGEN Protease using 10 ml distilled water. Users of manual QIAamp DNA Blood Kits and QIAGEN Blood and Cell Culture DNA Kits should reconstitute each vial of QIAGEN Protease using 7 ml distilled water.

Digest proteins under a wide range of conditions

QIAGEN Protease is particularly stable and active at high pH (Figure 1A). In Tris-containing buffers of alkaline pH (>7.5) QIAGEN Protease displays 30 to 40% higher specific activity than Proteinase K. In the presence of strong denaturants, such as urea or guanidine HCl, the specific activity is comparable to that of Proteinase K, provided the EDTA concentration is less than 8 mM.

QIAGEN Protease shows increased activity in the presence of urea (Figure 1B) and guanidine HCl (Figure 1C). Similar stimulation is obtained upon addition of up to 1% SDS. Enzymatic activity also increases as a function of temperature (Figure 1D). The enzyme can be easily inactivated by incubation at 70°C for 15 minutes.

QIAGEN Protease is not inhibited by up to 100 mM EDTA in Tris-Cl buffers. However, in the presence of greater than 1% SDS or other strong denaturants, the EDTA concentration must be less than 8 mM.

QIAGEN Protease is available in vials of ≥ 7.5 AU.

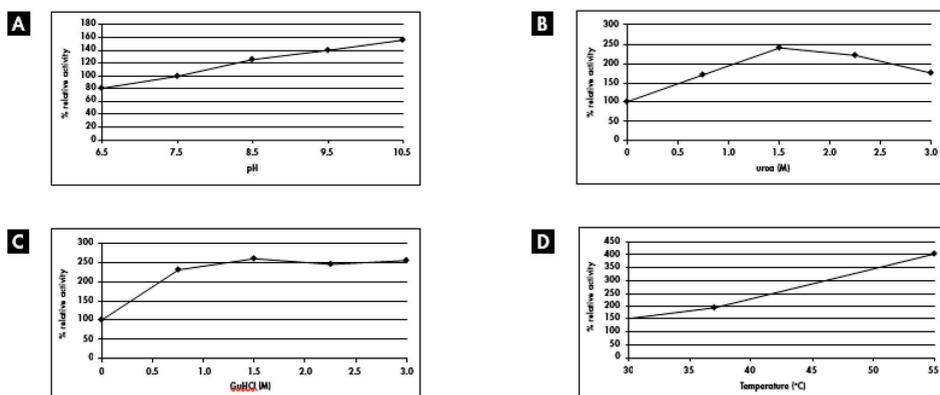


Figure 1. Relative activity of QIAGEN Protease as a function of **A** pH (7.5 = 100%), **B** urea concentration, **C** guanidine HCl concentration, and **D** temperature (room temperature = 100%).



19155, 19157



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QIAGEN Protease Specifications

| | |
|----------------------------------|--|
| Form | Lyophilized powder |
| Activity | 7.5 AU/vial* |
| Unit definition | 1 mAU is the activity that releases folin-positive amino acids and peptides from denatured hemoglobin in 1 minute corresponding to 1 μ mol tyrosine. |
| Assay conditions | Activity is determined with denatured hemoglobin as substrate in phosphate buffer, pH 7.5 at 37°C. |
| Storage conditions | Lyophilized: Room temperature (15–25°C) |
| Stability | Lyophilized: 12 months at 15–25°C Reconstituted [†] : 12 months at 2–8°C |
| Nucleases | Absence of DNase activity is checked by incubation of supercoiled Plasmid DNA with QIAGEN Protease in enzyme-incubation buffer at 37°C. Absence of RNase activity is checked by incubation of RNA with QIAGEN Protease in enzyme-incubation buffer at 37°C. |
| Active in the presence of | GuHCl (up to 3 M)*, Urea (up to 3 M)*, SDS (up to 1%)*, Sarkosyl*, Triton, EDTA (up to 100 mM) [‡] |

* EDTA concentration must be less than 8 mM.

[†] In Buffer AVE, Protease Solvent and Protease Suspension buffer.

[‡] In the absence of SDS and strong denaturants.

Shipping and Storage

The QIAGEN Protease is shipped at ambient temperature. It can be stored in a dry place at room temperature. Under these conditions, the components are stable for 12 months without showing any reduction in performance and quality, unless otherwise indicated on the label.

Safety Information

When working with chemicals, always wear a suitable lab coat, disposable gloves, and protective goggles. For more information, please consult the appropriate safety data sheets

(SDSs). These are available online in convenient and compact PDF format at www.qiagen.com/safety, where you can find, view, and print the SDS for each QIAGEN kit and kit component.

Quality Control

In accordance with QIAGEN's ISO-certified Quality Management System, each lot of QIAGEN Protease is tested against predetermined specifications to ensure consistent product quality.

Ordering Information

| Product | Contents | Cat. no. |
|--------------------------|-----------------------------------|----------|
| QIAGEN Protease (7.5 AU) | 7.5 Anson units (lyophilized) | 19155 |
| QIAGEN Protease (30 AU) | 4 x 7.5 Anson units (lyophilized) | 19157 |

QIAGEN Protease is intended for molecular biology applications. This product is not intended for the diagnosis, prevention, or treatment of a disease.

All due care and attention should be exercised in the handling of the products. We recommend all users of QIAGEN products to adhere to the NIH guidelines that have been developed for recombinant DNA experiments, or to other applicable guidelines.

Document Revision History

| Date | Changes |
|---------|---|
| 04/2022 | Corrected the stability of lyophilized QIAGEN Protease. |

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