Certificate of Analysis

Elastase:

Part No.	Size
V189A	5mg

Part# 9PIV189

Revised 8/16

Description: Elastase is a serine protease that preferentially cleaves at the C-terminus of alanine, valine, serine, glycine, leucine or isoleucine (1–4). Elastase has a unique capability of digesting elastin (5). This enzyme can be used alone or in combination with other proteases for protein analysis by mass spectrometry and other applications.

Biological Source: Porcine pancreas.

Molecular Weight: 25.9kDa (6).

Form: Lyophilized.

Storage Conditions: See the Product Information Label for storage conditions and expiration date.

Optimal pH: 9.0.

Activators: Elastase is activated by sodium carbonate, sodium sulfate and Tris (7).

Inhibitors:

1. **Irreversible:** b-casomorphin-7 (BCM7) (5); pH 3–4 (8); diisopropyl-phosphofluoridate and alkyl isocyanates (9); peptide chloromethyl ketone (10,11).
2. **Competitive:** Derivatives of dipeptides and alanine, valine, leucine and isoleucine (12).
3. **Selective:** Soybean trypsin inhibitor and kallikrein inhibitor suppress proteolytic but not elastolytic activity (13).

Usage Note: Resuspend Elastase in double-distilled water to a final concentration of 1mg/ml. Store reconstituted Elastase at 4°C for up to 2 weeks.

AF9PIV189 0816V189

Promega

Promega Corporation

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Quality Control Assays

This lot passes the following Quality Control specifications:

Activity: Digestion reactions using glucagon as a substrate at either a 1:20 or 1:100 protease:substrate ratio show no detectable intact substrate remaining by reverse-phase HPLC analysis after 30 minutes of digestion at 37°C.

Usage Information on Back

Signed by:

R. Wheeler, Quality Assurance

Part# 9PIV189
Printed in USA. Revised 8/16.

Promega

Usage Information

1. In-Solution Digestion Protocol

1. Resuspend the protein in reaction buffer.
   Note: Tris is an activator of Elastase and must be included in the reaction buffer.
2. Resuspend the Elastase in double-distilled water.
3. Transfer the protein solution to a microcentrifuge tube.
4. Add Elastase to protein solution; mix. We recommended using enzyme:protein ratios of 1:20 to 1:100.
5. Incubate 2–18 hours at 37°C.
6. Stop the reaction by adding 10% formic acid or TFA to a final concentration of 0.5% or by heating at 95°C for 10 minutes.

2. Composition of Buffers and Solutions

reaction buffer

50mM Tris-HCl (pH 8.5–9.5)

3. References

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2. Gertler, A. *et al.* (1977) *Biochemistry* **16**, 2709.
3. Del Mar, E.G. (1980) *Biochemistry* **19**, 468–72.
4. Powers, J.C. *et al.* (1977) *Biochimica et Biophysica Acta* **485,** 156–66.
5. Wright, P.A. *et al.* (2001) *Eur J. Biochem* **268**, 2969–74.
6. *Handbook of Proteolytic Enzymes* (1998) 42–46.
7. Shotton, D.M. (1970) *Methods Enzymol.* **19**, 113–40.
8. Wasi, S. *et al.* (1968) *Biochem. J.* **106**, 926–7.
9. Brown, W. *et al.* (1973) *Biochemistry* **12**, 835–40.
10. Thompson, R.C. *et al.* (1973) *Biochemistry* **12**, 44–7.
11. Powers, J. *et al.* (1972) *J. Am. Chem. Soc.* **94**, 6544–5.
12. Dzialoszynski, L. *et al.* (1973) *Biochim Biophys Acta.* **302**, 406–10.
13. Walford, R.L. *et al.* (1962) *Arch. Biochem Biophys.* **98,** 191–6.

4. Related Products

Product	Size	Conc.	Cat.#
Asp-N, Sequencing Grade	2µg		V1621
Arg-C, Sequencing Grade	10µg		V1881
Chymotrypsin, Sequencing Grade	25µg		V1061
	100µg (4 × 25µg)		V1062
Endo H	10,000u	500u/µl	V4871
	50,000u	500u/µl	V4875
Endoproteinase Lys-C, Sequencing Grade	5µg		V1071
Fetuin	500µg	10mg/ml	V4961
Glu-C, Sequencing Grade	50µg (5 × 10µg)		V1651
Immobilized Trypsin	2ml		V9012
	4ml (2 × 2ml)		V9013
Pepsin	250mg		V1959
PNGase F	500u	10u/µl	V4831
ProteaseMAX™ Surfactant, Trypsin Enhancer	1mg		V2071
	5 × 1mg		V2072
Protein Deglycosylation Mix	20 reactions		V4931
rLys-C, Mass Spec Grade	15µg		V1671
Sequencing Grade Modified Trypsin	100µg (5 × 20µg)		V5111
Sequencing Grade Modified Trypsin, Frozen	100µg (5 × 20µg)		V5113
Thermolysin	25mg		V4001
Trypsin Gold, Mass Spectrometry Grade	100µg		V5280
Trypsin/Lys-C Mix, Mass Spec Grade	20µg		V5071
	100µg		V5072
	100µg (5 × 20µg)		V5073

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