

## Certificate of Analysis

### Chymotrypsin, Sequencing Grade

**Part No.** V106A  
**Size** 25µg

**Description:** Chymotrypsin, Sequencing Grade, is a serine endoproteinase that specifically cleaves peptide bonds at the C-termini of Tyr, Phe, Trp and Leu. Met, Ala, Asp and Glu may be cleaved at a much lower rate.

**Biological Source:** Bovine pancreas.

**Molecular Weight:** 25kDa.

**Form:** Lyophilized.

**Specific Activity:** At least 70 units/mg by BTEE (N-benzoyl-L-tyrosine ethyl ester) assay.

**Unit Definition:** One unit is defined as the amount of Chymotrypsin that will hydrolyze 1.0µmol of BTEE per minute at pH 7.8 and 25°C.

**Storage Conditions:** See the Product Information Label for storage temperature recommendations and expiration date.

**Usage Notes:** Resuspend in 1mM HCl. We recommend resuspending in 25–50µl of HCl for a final concentration of 0.5–1µg/µl. Resuspended Chymotrypsin, Sequencing Grade, can be stored for up to one week at 4°C.

Part# 9PIV106

Revised 3/13



## Quality Control Assays

This lot passes the following Quality Control specifications:

**Specific Activity:** At least 70 units/mg of protein by BTEE assay.

**Purity:** Greater than or equal to 90% pure by SDS-PAGE analysis.



**Promega**

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Signed by:

J. Stevens, Quality Assurance

Part# 9PIV106  
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## 1. Protocol

### Preparation of Protein

In general proteins require efficient solubilization, denaturation and disulphide bond reduction (with subsequent alkylation) for optimal digestion and more complete sequence coverage. The following optional steps are provided as a guideline to facilitate protease digestion with this product.

- Solubilization/Denaturation:** Dissolve protein in 100mM Tris-HCl, 10mM CaCl<sub>2</sub> (pH 8.0). Proteins that are difficult to dissolve or require denaturation for efficient digestion can be solubilized in a minimum volume in a denaturant such as 6–8M urea or 6M guanidine HCl at room temperature to 37°C for up to one hour. For some proteins, it may be beneficial to heat the sample to 60°C over this time period (95°C for 15–20 minutes for extreme cases). ProteaseMAX™ Surfactant can be used (0.01–0.2%) in 100mM Tris-HCl, 10mM CaCl<sub>2</sub> (pH 8.0) in a minimum volume and does not require heating to be effective.
- Disulphide Reduction:** To the dissolved protein add DTT (or β-mercaptoethanol) to a final concentration of 5mM; heat this sample at 50–60°C for 20 minutes.
- Alkylation:** Allow the reduced protein mixture to cool to room temperature, and add iodoacetamide to a final concentration of 15mM. Incubate in the dark for 15 minutes at room temperature.
- Finally adjust the reaction volume with 100mM Tris-HCl, 10mM CaCl<sub>2</sub> (pH 8.0) such that the urea or guanidine concentration is 1M or less or the ProteaseMAX™ Surfactant concentration is at or below 0.025%.

### Enzyme Reconstitution

Dissolve lyophilized Chymotrypsin, Sequencing Grade, in 1mM HCl. We recommend using 25–50µl per digestion to obtain a final concentration 0.5–1µg/µl.

### Digestion

Add Chymotrypsin, Sequencing Grade, to a final protease:protein ratio of 1:200 to 1:20 (w/w), and incubate sample for 2–18 hours at 25°C. The reaction may be stopped, if desired, by adding 0.5% trifluoroacetic acid.

**Note:** The presence of up to 1M guanidine or urea in the digestion may reduce the activity of Chymotrypsin, Sequencing Grade, by up to 20%. The addition of ProteaseMAX™ Surfactant up to the recommended amount will not reduce the activity of Chymotrypsin, Sequencing Grade.

## 2. Related Products

Product	Size	Conc.	Cat.#
Asp-N, Sequencing Grade	2µg		V1621
Arg-C, Sequencing Grade	10µg		V1881
Elastase	5mg		V1891
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