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## Chymotrypsin

Cat. No.:	HY-108910		
CAS No.:	9004-07-3		
Target:	Ser/Thr Protease		
Pathway:	Metabolic Enzyme/Protease		
Storage:	Powder	-20°C	3 years
	In solvent	-80°C	6 months
		-20°C	1 month

# Chymotrypsin

### SOLVENT & SOLUBILITY

In Vitro	DMSO : 50 mg/mL (Need ultrasonic)
In Vivo	1. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (Infinity mM); Clear solution

### BIOLOGICAL ACTIVITY

Description	Chymotrypsin (Chymotrypsin A) is a serine protease produced by the pancreas. Chymotrypsin cleaves protein chains at the carboxyl side of aromatic amino acids <sup>[1][2]</sup> .
In Vitro	<p>Recommended to reconstitute in 1mM HCl at 10 mg/mL and add 2 mM calcium chloride as stabilizer. Resuspended Chymotrypsin can be stored for up to one week at 4°C.</p> <p>Preparation of Protein</p> <ol style="list-style-type: none"> <li>1. 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).</li> <li>2. 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.</li> <li>3. 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.</li> <li>4. 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.</li> </ol> <p>Enzyme Reconstitution</p> <p>Dissolve Chymotrypsin in 1mM HCl. We recommend a final concentration 0.5-1 µg/µL.</p> <p>Digestion</p> <p>Add Chymotrypsin 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.</p>

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MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## REFERENCES

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- [1]. W.R. Terra, et al. 4.5 - Biochemistry of Digestion, Editor(s): Lawrence I. Gilbert, Comprehensive Molecular Insect Science, Elsevier, 2005, Pages 171-224.
- [2]. Steven W. Cotton. Chapter 33 - Evaluation of exocrine pancreatic function, Editor(s): William Clarke, Mark A. Marzinke, Contemporary Practice in Clinical Chemistry (Fourth Edition), Academic Press, 2020, Pages 573-585.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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