

Recombinant Trypsin and Lys-C Protease Mix, Mass Spec Grade

Cat. No. Trypsin; Lys-C-37 **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Description

rTrypsin 3.0 and rLys-C are recombinant metalloproteases. rTrypsin 3.0 rapidly and specifically cleaves at the C-terminal of arginine (R) and lysine (K), while rLys-C specifically cleaves at the C-terminal of lysine (K). Since trypsin does not cleave arginine and lysine at equal efficiency, incomplete digestion at lysine sites may occur. Additionally, lysines with PTM modifications or adjacent to hydrophobic residues (e.g., proline) can hinder cleavage. The rTrypsin/rLys-C protease mix is ideal for digesting complex or hard-to-digest proteins, and is suitable for protein characterization, single-cell proteomics, and large-scale proteomic studies.

Form

Lyophilized powder containing 67 µg trehalose.

Bio-activity

rTrypsin: 15,000 U/mg rLys-C: 25 U/mg

Molecular Mass

rTrypsin: 23.7 kDa rLysC: 27 kDa

Purity

Impurity protein peaks measured by LC at 280 nm; protease mix peak intensity >99.0 %.

Storage

At - 20 centigrade

Reconstitution

Dissolve in 40 µL of 50 mM acetic acid to 0.5 µg/µL.

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CAS No.	9002-07-7/78642-25-8
Shelf life	24 months at -20 centigrade
Usage Notes	1. Recommended buffer system: 20 mM Tris, 50 mM ABC or HEPES, pH 7.0-9.0. 2. Suggested protein denaturation protocol: Use a 1:50 enzyme-to-protein ratio; maintain protein concentration at 0.5 µg/µL; incubate in a dry bath at 37 centigrade for 30 minutes.
Specificity	ESI-MS/MS analysis of Secukinumab shows >99.8 % cleavage specificity at lysine (K) and arginine (R) sites.
Unit Definition	rTrypsin: One unit hydrolyzes 1.0 µmol BAEE per minute at pH 7.8 and 25 centigrade, measured at 253 nm. rLys-C: One unit hydrolyzes 1.0 µmol T-G-P-rLys-Nitroanilide per minute at pH 7.8 and 25 centigrade, measured at 405 nm.
LC-MS/MS Analysis	Secukinumab was denatured, reduced, and alkylated using BT57 reagent at 60 centigrade, then digested at pH 8.0, 45 centigrade for 30 minutes. QE HF LC-MS analysis showed: Heavy chain coverage: 55 % (no missed cleavages) Light chain coverage: 69.8 % (no missed cleavages)
pH Range	Optimal pH Range: pH 7.0-9.0

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