

# Recombinant Trypsin-N, Mass Spec Grade

**Cat. No.** Trypsin-N-39    **Lot. No.** (See product label)

## SPECIFICATION

### Product Overview

|                       |                                                                                                                                                                                                                                                                                                                                                    |
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| <b>Description</b>    | rTrypsin-N, Mass Spec Grade, is an innovative protease that specifically hydrolyzes peptide bonds at the amino side of lysine and arginine residues. rTrypsin-N can be applied for post-translational modification (PTM) proteins research and is beat for protein sequencing. Peptides produced more b ions than y ions in the mass spectrometer. |
| <b>Form</b>           | Supplied by lyophilized powder with 0.47 mg HEPES; 0.05 mg CaCl <sub>2</sub> per vial.                                                                                                                                                                                                                                                             |
| <b>Bio-activity</b>   | 152 units/mg                                                                                                                                                                                                                                                                                                                                       |
| <b>Molecular Mass</b> | 29 kDa                                                                                                                                                                                                                                                                                                                                             |
| <b>Purity</b>         | > 99.5 % rTrypsin-N peak area analyzed by HPLC at 280 nm.                                                                                                                                                                                                                                                                                          |
| <b>Storage</b>        | Store the lyophilized powder at -20 centigrade, and reconstituted enzyme at -80 centigrade for up to 30 days.                                                                                                                                                                                                                                      |
| <b>Shelf life</b>     | 24 months at -80 centigrade                                                                                                                                                                                                                                                                                                                        |
| <b>Stability</b>      | rTrypsin-N is maximally active at pH 7.5.                                                                                                                                                                                                                                                                                                          |
| <b>Usage Notes</b>    | In-Solution Protein Digestion Protocol: 1. For maximum activity, resuspend Mass Spec Grade rTrypsin-N in 200 µL distilled water, pH 7.5. 2. Use 20-50 mM HEPES                                                                                                                                                                                     |

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|                            | <p>solution, 0.1 % BT Surfactant, or Tris-HCl (pH 7.5) for the protein mixture cleavage (recommended). 3. Add 0.5µg/µL rTrypsin-N to a final enzyme : substrate ratio of 1: 30. Mix well and incubated at 37 centigrade for 4 h.</p>                                                                               |
| <b>Specificity</b>         | <p>&lt; 5 % nonspecific cleavage with Human Serum Albumin (HSA) sample. Digested products were incubated at 37 centigrade for 4 h, and was nonspecific cleavage was analyzed by LC-MS/MS.</p>                                                                                                                      |
| <b>Unit Definition</b>     | <p>One unit is the amount of Mass spectrum Grade rTrypsin-N will hydrolyze per minutes at pH 10 at 25 centigrade, OD366, Light path = 1 cm.</p>                                                                                                                                                                    |
| <b>LC-MS/MS Analysis</b>   | <p>HSA samples were dissolved and denatured for at 37 centigrade for 1 h. The denatured HSA was diluted at pH 7.5 and incubated with rTrypsin-N for 4 h. The digest was analyzed by LC-MS/MS, and the peptides results matched the peptides generated in a theoretical digestion results of HSA by rTrypsin-N.</p> |
| <b>Resuspension Buffer</b> | <p>200 µL distilled water, pH 7.5</p>                                                                                                                                                                                                                                                                              |
| <b>MALDI-TOF Analysis</b>  | <p>rTrysin-N is analyzed by MALDI-TOF, impurity peak is not found.</p>                                                                                                                                                                                                                                             |