# KRISHZYME™ Endoproteinase AspN

Catalog Number: KBENZ104

**Description**:
Endoproteinase AspN (flavastacin) is a zinc metalloendopeptidase which selectively cleaves peptide bonds N-terminal to aspartic acid residues. It is highly specific and cleaves peptide bonds on the N-terminal side of aspartic acid residues, and to a lesser extent, glutamic acid (E) residues. In the presence of zinc, it shows optimal activity in a pH range of 4–9 and can remain active under denaturing conditions. Asp-N Protease can be used in combination with other proteases, such as trypsin, for improved protein digestion. Mass spectrometry grade Asp-N protease can be used for peptide matching, protein identification, in-solution and in-gel digestion of proteins, and peptide mass fingerprinting.

**Synonyms:**
Asp-N protease

**Appearance:**
Filtered liquid formulation.

**Endoproteinase AspN**
50ug

**Reagents Supplied with Enzyme:**
2X AspN Reaction Buffer- 1.5ml

**Source:**
Purified from Flavobacterium menigosepticum.

**Applications:**
• Digestion of proteins for proteomic analysis by Mass Spectrometry
• Protein and peptide identification

**Reaction Conditions:**
1. 1:20-50 (mass) endoproteinase : substrate
2. 1 ul (1ug) substrate protein
3. 1 ul (100ng) Endoproteinase AspN
4. 10 ul 2X AspN Reaction Buffer
5. 8 ul $H_2O$
6. Incubate 2-18 hrs at 37°C

**Specific Activity:**
~ 25 µmol/min/mg

**Molecular Weight:**
40,089.9 daltons

**Reconstitution:**
Endoproteinase AspN should be reconstituted by the addition of 50–500 ul of high purity water. Rapid autolysis is a function of enzyme concentration.

**Endoproteinase AspN Protein Sequence:**

```
1   TIVSSFIKTWPNATVYYTLPSQGSLSTQAYNTFLTNINKAFDMISSKTSVKFVQRTNQTE
61  YITFTYSTGNSSPLGWVKNRVNGIKIYNTTYPAIIAHEIMHSMGIMHEQCRPDRDQYIIV
121 DTNRAQDGTRHNFNLYNDYAGHGEFDFGSVMMYKSTDFAIDPNLPVMTKLDGSTFGKQRD
181 GLSAGDYAGINHLYGPVNSTSATNGTYTLTTSLAGDKNIDITGSSTADGTDVILYSATTG
241 NNQKFIFRKSEHGYFTIKSILDSTKVLTVRNNGTANGTAVELRTNADTDAQKWLLFNLGN
301 EGFGFAPKNAPSLRLEVKDGLTTNLTPIVIGSTDQTLQPYTKQRFTLTKVN
```

**Storage Conditions:**
Supplied in lyophilized form. Can be stored frozen in solution at –20°C for up to 2 weeks. A decrease in activity will occur if stored in solution. Use only freshly reconstituted protease for best results.

**Quality Assurance:**
Endoproteinase AspN is free of glycerol and detergents which may interfere with Matrix-assisted laser desorption/ionization time-of-flight (MALDI-TOF) or Electrospray Ionization (ESI) Mass Spectrometry (MS), or liquid chromatography (LC) methods.

**References:**

Fluorescence enhancement through enzymatic cleavage of internally quenched dendritic peptides: A sensitive assay for the AspN endoproteinase
JM Ellard, T Zollitsch, WJ Cummins… - Angewandte …, 2002 - Wiley Online Library

Enzyme-induced formation of β-lactoglobulin fibrils by AspN endoproteinase
C Akkermans, P Venema, AJ van der Goot, RM Boom… - Food Biophysics, 2008 - Springer

A one-enzyme strategy to release an antimicrobial peptide from the LFampin-domain of bovine lactoferrin
JGM Bolscher, MIA van der Kraan, K Nazmi, H Kalay… - Peptides, 2006 - Elsevier

Site-specific formation of Maillard, oxidation, and condensation products from whey proteins during reaction with lactose
J Meltretter, S Seeber, A Humeny… - Journal of agricultural …, 2007 - ACS Publications

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