

School of Basic & Applied Sciences

Course Code : BSCC3001

Course Name: BIOMOLECULES

N- terminal End group analysis of Amino acids & Peptides

The logo of Galgotias University is a stylized 'G' composed of several overlapping, curved bands in shades of yellow, orange, and blue, set against a light pink circular background.

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Name of the Faculty: Dr. Anjali Gupta

Program Name: B.Sc. (H) Chemistry

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Prerequisites

Knowledge of concepts of organic chemistry

Properties of peptide bond

Enzymatic activity

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RECAP

Zwitter ion

pKa values

C-terminal Analysis

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Learning Outcomes

End term analysis in amino acids

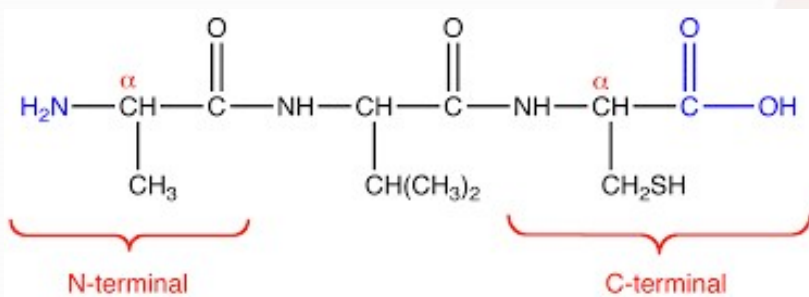
Determination of C-terminal

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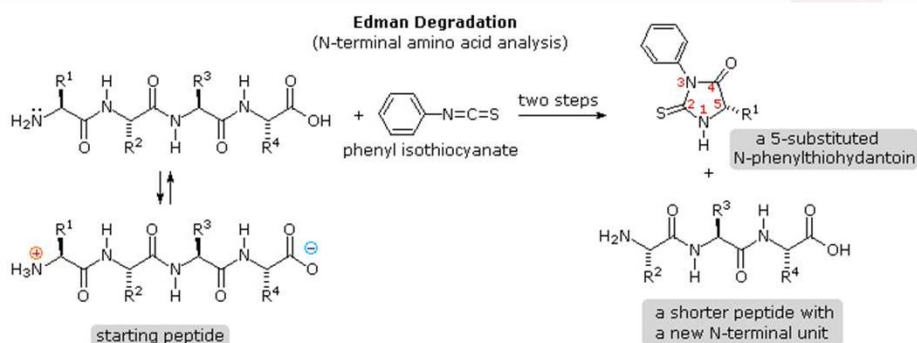
N & C-terminal in peptides



In peptides, the amino acid residue on one end has an amine group on the alpha carbon. This amino acid residue is called the N-terminal of the peptide. The amino acid residue on the other end has a carboxylic acid group on the alpha carbon. This amino acid is called the C-terminal.

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Edman Degradation



- A free amine function, usually in equilibrium with zwitterion species, is necessary for the initial bonding to the phenyl isothiocyanate reagent.
- The products of the Edman degradation are a thiohydantoin heterocycle incorporating the N-terminal amino acid together with a shortened peptide chain.
- Amine functions on a side-chain, as in lysine, may react with the isothiocyanate reagent, but do not give thiohydantoin products.

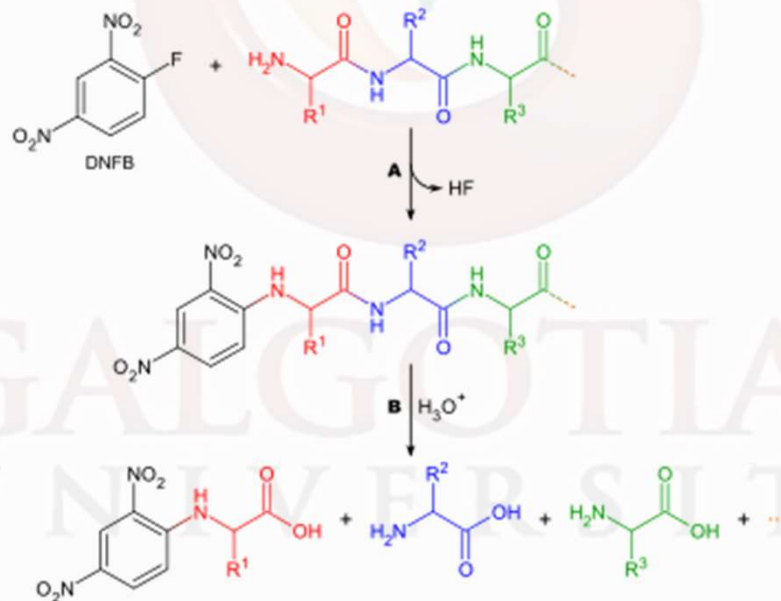
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Sanger's Reagent

Sanger's reagent (1-fluoro-2,4-dinitrobenzene)



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References

1. <https://www2.chemistry.msu.edu/faculty/reusch/VirtTxtJml/protein2.htm>
2. https://en.wikipedia.org/wiki/Protein_sequencing
3. [https://info.gbiosciences.com/blog/dnfb-sangers-reagent-for-detection-of-free-amino-acids.](https://info.gbiosciences.com/blog/dnfb-sangers-reagent-for-detection-of-free-amino-acids)

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THANKYOU

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