N- terminal End group analysis of Amino acids & Peptides

Prerequisites

Knowledge of concepts of organic chemistry

Properties of peptide bond

Enzymatic activity

RECAP

Zwitter ion

pKa values

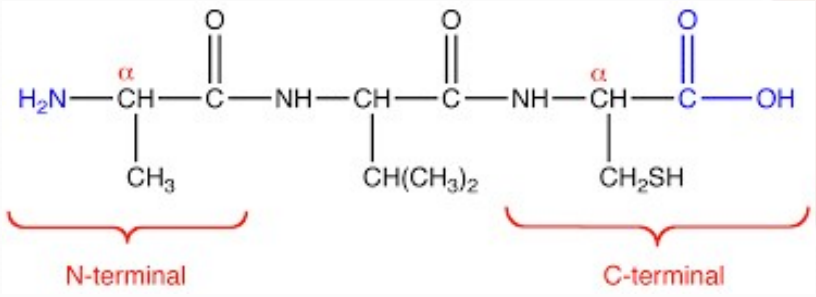
C-terminal Analysis

Learning Outcomes

End term analysis in amino acids

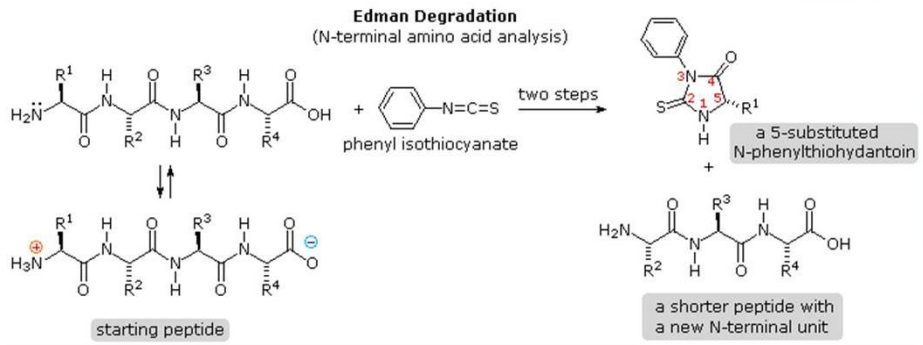
Determination of C-terminal

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.

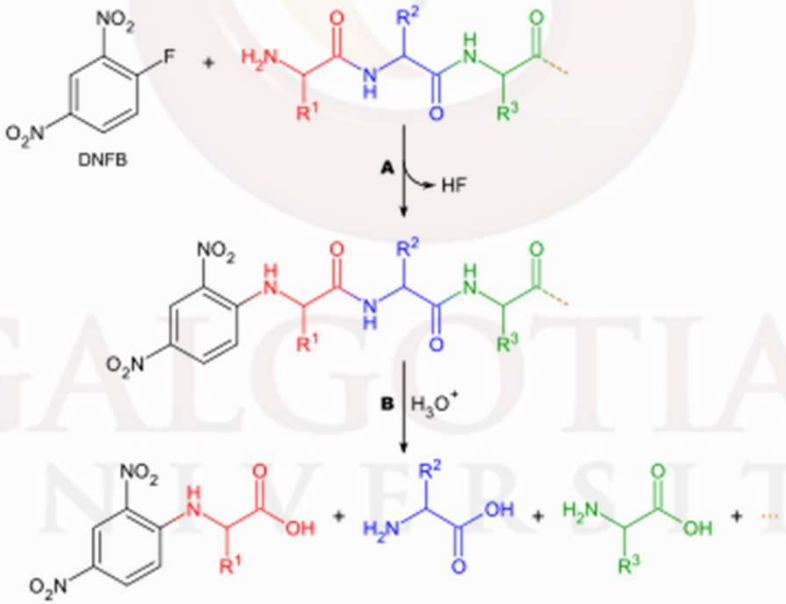
Edman Degradation



- 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.

Sanger's Reagent

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



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.**

THANKYOU