Amino Acids Flashcards PDF

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What are amino acids?
Amino acids are organic compounds that combine to form proteins. They are the building blocks of life.

How many standard amino acids are there?
There are 20 standard amino acids that are encoded by the universal genetic code.

What is the structure of an amino acid?
An amino acid consists of a central carbon atom, an amino group, a carboxyl group, a hydrogen atom, and a variable R group (side chain).

What is the role of amino acids in the body?
Amino acids play a crucial role in building proteins, synthesizing hormones and neurotransmitters, and supporting metabolic processes.

What are essential amino acids?
Essential amino acids are amino acids that cannot be synthesized by the body and must be obtained through diet.

Can you name some essential amino acids?
Some essential amino acids include leucine, isoleUCine, valine, lysine, methIONine, phenylalanine, threonine, and tryptophan.

What are non-essential amino acids?
Non-essential amino acids are amino acids that can be synthesized by the body and are not required to be obtained from the diet.

What is a peptide bond?
A peptide bond is a covalent bond that links amino acids together in a protein, formed between the carboxyl group of one amino acid and the amino group of another.

What is the significance of the R group in amino acids?
The R group, or side chain, determines the unique characteristics and properties of each amino acid, influencing protein structure and function.

What is the difference between polar and non-polar amino acids?
Polar amino acids have side chains that can form hydrogen bonds with water, while non-polar amino acids have side chains that are hydrophobic and do not interact well with water.