

Aspartic acid (symbol Asp or D; salts known as aspartates), is an α -amino acid that is used in the biosynthesis of proteins.

Similar to all other amino acids it contains an amino group and a carboxylic acid. Its α -amino group is in the protonated $-\text{NH}_3^+$ form under physiological conditions, while its α -carboxylic acid group is deprotonated $-\text{COO}^-$ under physiological conditions. Aspartic acid has an acidic side chain (CH_2COOH) which reacts with other amino acids, enzymes and proteins in the body.

Under physiological conditions (pH 7.4) in proteins the side chain usually occurs as the negatively charged aspartate form, $-\text{COO}^-$.

It is a non-essential amino acid in humans, meaning the body can synthesize it as needed. It is encoded by all the codons GAU and GAC.

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