Threonine (abbreviated as Thr or T) encoded by the codons ACU, ACC, ACA, and ACG is an α-amino acid that is used in the biosynthesis of proteins. It contains an α-amino group (which is in the protonated -+NH3 form under biological conditions), an α-carboxylic acid group (which is in the deprotonated –COO- form under biological conditions), and an alcohol containing side chain, classifying it as a polar, uncharged(at physiological pH) amino acid. It is essential in humans, meaning the body cannot synthesize it, and must be ingested in our diet. Isoleucine is synthesized from aspartate in bacterial cells such as E. coli.

The threonine residue is susceptible to numerous posttranslational modifications. The hydroxyl side-chain can undergo O-linked glycosylation. In addition, threonine residues undergo phosphorylation through the action of a threonine kinase. In its phosphorylated form, it can be referred to as phosphothreonine.

It is a precursor of glycine, and can be used as a prodrug to reliably elevate brain glycine levels.