

Glutamic acid (abbreviated as Glu or E; encoded by the codons GAA or GAG) is an  $\alpha$ -amino acid that is used in the biosynthesis of proteins. It contains an  $\alpha$ -amino group (which is in the protonated  $-\text{NH}_3^+$  form under biological conditions), an  $\alpha$ -carboxylic acid group (which is in the deprotonated  $-\text{CO}_2^-$  form under biological conditions), and a side chain carboxylic acid, classifying it as a polar negatively charged (at physiological pH), aliphatic amino acid. It is non-essential in humans, meaning the body can synthesize it.

In neuroscience, its carboxylate anion glutamate is an important excitatory neurotransmitter that plays the principal role in neural activation.

The conjugate base is glutamate; the radical is glutamyl.

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