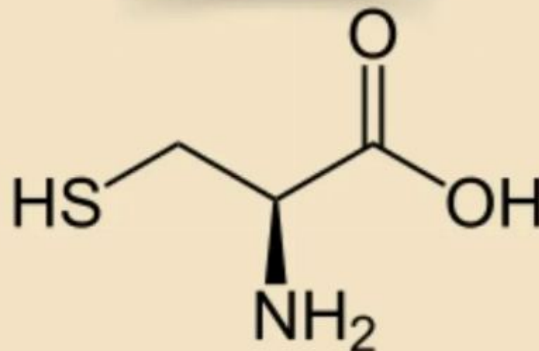


Cysteine

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VAJIRAM & RAVI
Institute for IAS Examination



Cysteine

Cysteine Latest News

The researchers recently found that removing just one amino acid, cysteine, from the diet of mice led to a dramatic and rapid loss of 30% of the body weight in a week.

About Cysteine

- It is a **sulfur containing amino acid** with diverse roles in protein function and oxidative metabolism.
- It is a **non-essential amino acid**.
- It is **one of the least abundant** amino acids, yet it is **frequently found** as a highly conserved residue **within functional** (regulatory, catalytic, or binding) **sites in proteins**.
- It is **abundant in beta-keratin**, a key **structural protein in nails, skin, and hair**.
- **Importance:**
 - Cysteine is important for **making collagen**. It **affects skin elasticity and texture**.
 - It **helps make antioxidants like glutathione**, which protect our cells from harm.

- It also plays a **role in creating taurine**, a substance that helps with things like **digestion and keeping our heart healthy**.
- Cysteine is **also involved** in helping our body **get rid of harmful substances through** a process called **detoxification**.
- **Low cysteine levels** might mean that your **body isn't making enough** of this semi-essential amino acid, or you're not getting enough from foods like meat, dairy, and eggs.
- **Symptoms** of low levels of Cysteine may include **fatigue, weakness, slow growth** in children, and a **weakened immune system**.

What are Amino Acids?

- An amino acid is the **fundamental molecule** that serves as the **building block for proteins**.
- There are **20 different amino acids**.
- **A protein** consists of **one or more chains of amino acids** (called **polypeptides**) whose **sequence is encoded in a gene**.
- **Essential amino acids:**
 - Essential amino acids **cannot be made by the body**. As a result, they **must come from food**.
 - The **9 essential** amino acids are histidine, isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan, and valine.
- **Non-Essential amino acids:**
 - Nonessential means that our **bodies can produce** the amino acid, even if we do not get it from the food we eat.
 - Nonessential amino acids include alanine, arginine, asparagine, aspartic acid, cysteine, glutamic acid, glutamine, glycine, proline, serine, and tyrosine.

Source: **TH**

Source: <https://vajiramandravi.com/current-affairs/cysteine/>

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