

Cytoplasm

January 31, 2026 • vajiramandravi.com



VAJIRAM & RAVI
Institute for IAS Examination



Cytoplasm

Cytoplasm Latest News

Early development across vertebrates and insects critically relies on robustly reorganizing the cytoplasm of fertilized eggs into individualized cells.

About Cytoplasm

- Cytoplasm is a **thick solution** that **fills each cell** and is **enclosed by the cell membrane**.
- It is mainly **composed of water, salts, and proteins**.
- **In eukaryotic cells** (i.e., cells having a nucleus), the cytoplasm **includes all of the material inside the cell but outside the nucleus**, which contains its own watery substance called nucleoplasm.
- **All of the organelles** in eukaryotic cells are **located in the cytoplasm**. The cytoplasm helps to keep them in place.
 - Among such organelles are the **mitochondria**, which are the **sites of energy production through ATP** (adenosine triphosphate) **synthesis**;
 - the **endoplasmic reticulum**, the **site of lipid and protein synthesis**;

- the **Golgi apparatus**, the site where **proteins are modified, packaged**, and **sorted** in preparation **for transport** to their cellular destinations;
- **lysosomes and peroxisomes**, **sacs of digestive enzymes** that carry out the **intracellular digestion of macromolecules** such as lipids and proteins;
- The portion of the **cytoplasm surrounding organelles** is called **cytosol**, which is the **liquid part** of the cytoplasm.
 - It is composed of about **80 percent water** and also **contains dissolved salts, fatty acids, sugars**, amino acids, and proteins such as **enzymes**.
 - These **dissolved substances** are **needed to keep the cell alive** and carry out metabolic processes.
- Cytoplasm is also the **site of most metabolic activities in the cell**, and it allows materials to pass easily throughout the cell.
- Although cytoplasm may appear to have no form or structure, it is actually **highly organized**.
 - A **framework of protein scaffolds** called the **cytoskeleton** provides the **cytoplasm and the cell with their structure**.
- Though **prokaryotic cells do not have organelles** (they do have ribosomes), they **still have cytoplasm**.

Source: NT

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

© Vajiram & Ravi. For personal use only.