

CYTOPLASM

DEFINITION

Cytoplasm is aqueous substance containing a variety of cell organelles and other structures such as insoluble wastes and storage products.

DIVISION

Cytoplasm is divided into two parts:

1. The Soluble Part or cytosol
2. The Insoluble Part

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1. CYTOSOL

The soluble part of the cytoplasm forms the ground substance between the cell organelles and is called cytosol.

COMPOSITION

It is about 90% water and form a solution that contain all the fundamental biochemicals of life.

METABOLIC ROLE

The ground substance of the cytoplasm is the site of certain

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metabolic pathways i.e Glycolysis. It also acts as storage of vital chemicals.

TYPES PARTS

The cytosol is divided into two parts:

1. True solution
2. Colloidal solutions.

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i) TRUE SOLUTIONS

This part consist of true homogenous solution which is composed of ions and small molecules such as salts, sugars, amino acids, fatty acids, nucleotides, vitamins and dissolved gases.

ii) COLLOIDAL SOLUTIONS

This part consist of heterogenous solution of large molecules such as proteins, which form the colloidal solutions.

STATES

A colloidal solution may be a sol (non-viscous) or a gel (jelly like or viscous). Often the outer region of cytoplasm is more gel like.

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2) INSOLUBLE PART

The insoluble part of cytoplasm include the waste products resulting from biochemical activities.

* CYCLOSIS

In the cytosol mitochondria move about in cytoplasm due to cytoplasmic streaming movements. This is an active mass movement of cytoplasm which is called cyclosis.

* STORAGE

Cytosol acts as storage of vital chemicals.

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