



Lecture title: *Culture Media*

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Summary: Culture Media

A microbiological medium (media, plural) is the food that we use for culturing bacteria, molds, and other microorganisms.

Advantages of culture media

To culture microorganisms.

For pure culture isolation.

For storage of stock cultures.

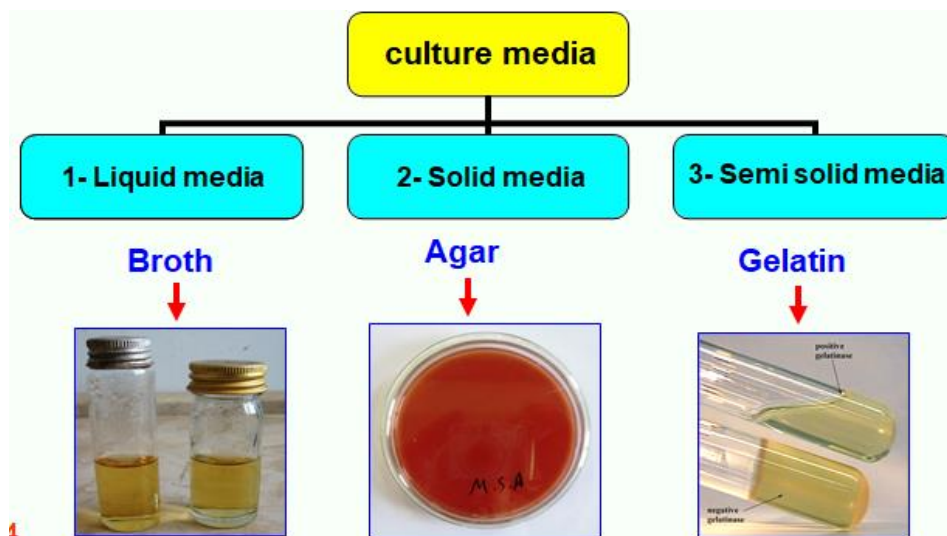
To observe specific biochemical reactions

As transport media to preserve bacteria during transportation to the laboratory.

For preparation of antigens (vaccines and diagnostic kits).

Types of culture media

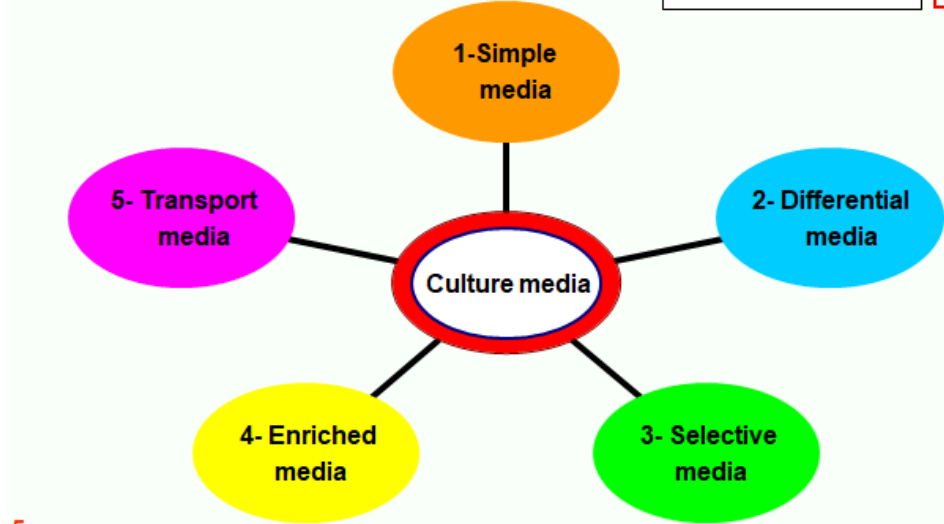
A- According to physical consistencies





B- According to the purpose of application

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1- Simple media

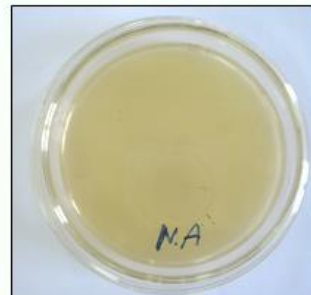
Contains the essential nutrients as source of nitrogen and carbon such as:



Nutrient broth



Peptone water



Nutrient agar

2- Differential media

Differential media are media that contain substances that cause some bacteria to take on a different appearance from other species, allowing one to differentiate one species from another, e.g. MacConkey agar and Mannitol salt agar.

MacConkey agar

Differentiate between lactose fermenting and non-lactose fermenting bacteria.





3- Selective media

Selective media are media that allow only certain types of organisms to grow in or on them due to the presence of inhibitory substances or the absence of certain critical nutrients that make it unfavorable for most, but not all, organisms.

The inhibitory substance may be salt (NaCl), acid, a toxic chemical (crystal violet), an antibiotic (streptomycin).

In some cases media have been formulated that are both selective and differential. e.g. MacConkey agar and Mannitol salt agar.

4- Enriched media

Certain types of bacteria need special nutrients in order to grow, simple media can be enriched by adding vitamins, yeast and salt e.g.

Blood agar

Heated Blood agar (Chocolate agar)

Brain heart infusion agar

Tissue and body fluid's extract

Serum agar

5- Transport media

Simple media used for transport samples from different regions to the lab. e.g. Stuart transport medium

Transport Swab

