CULTURE MEDIA

Culture media: Can be defined as an artificially prepared substance containing various microbial nutritional requirements which will allow the growth of most microorganisms.

Classification of culture media:

1- consistency (hradness): culture media can be classified into

(A) Liquid media:

Its used for particular biochemical tests, sensitivity tests. It has some disadvantages:

- Growth usually do not exhibit special characteristic appearance.
- When there is more than one type of organisms they can not be separated by growing in liquid media.

(B) Semi solid media:

Its use to separate a mixture of a motile and non motile organisms (contain 0.2-0.5% agar).

(C) Solid media: Contain 2.-3% agar.

***Agar**: it is long chain polysaccharide containing inorganic salts and a small amount of proteins. It act as a solidifying agent and solidify only when cooled to 42°C.

*Solid media has some special advantages:

- Growth usually shows special characteristic appearance that helps in identification of the organisms.
- Microorganisms can be separated with certainly from mixtures by growth fall in a solid media.

2- According to use divided into:

1) **Basal media** are those that may be used for growth (culture) of bacteria that do not need enrichment of the media. Examples: Nutrient broth, nutrient agar and peptone water. Staphylococcus and Enterobacteriaceae grow in these media.

2) **Enriched media** The media are enriched usually by adding blood, serum or egg. Examples: Enriched media are blood agar and Lowenstein-Jensen media. Streptococci grow in blood agar media.

3) **Selective media** These media favor the growth of a particular bacterium by inhibiting the growth of undesired bacteria and allowing growth of desirable bacteria. Examples: Eosin methylene blue (EMB).

4) **Differential media** (Indicator) An indicator is included in the medium. A particular organism causes change in the indicator, e.g. MacConkey agar are differential media(contain lactose sugar and neutral red)

5) **Transport media** These media are used when cannot be cultured soon after collection. Examples: Cary-Blair medium, Amies medium, Stuart medium.

6) **Preservation media** Media used for storing the bacteria for a long period of time. Examples: Egg saline medium, chalk cooked meat broth.

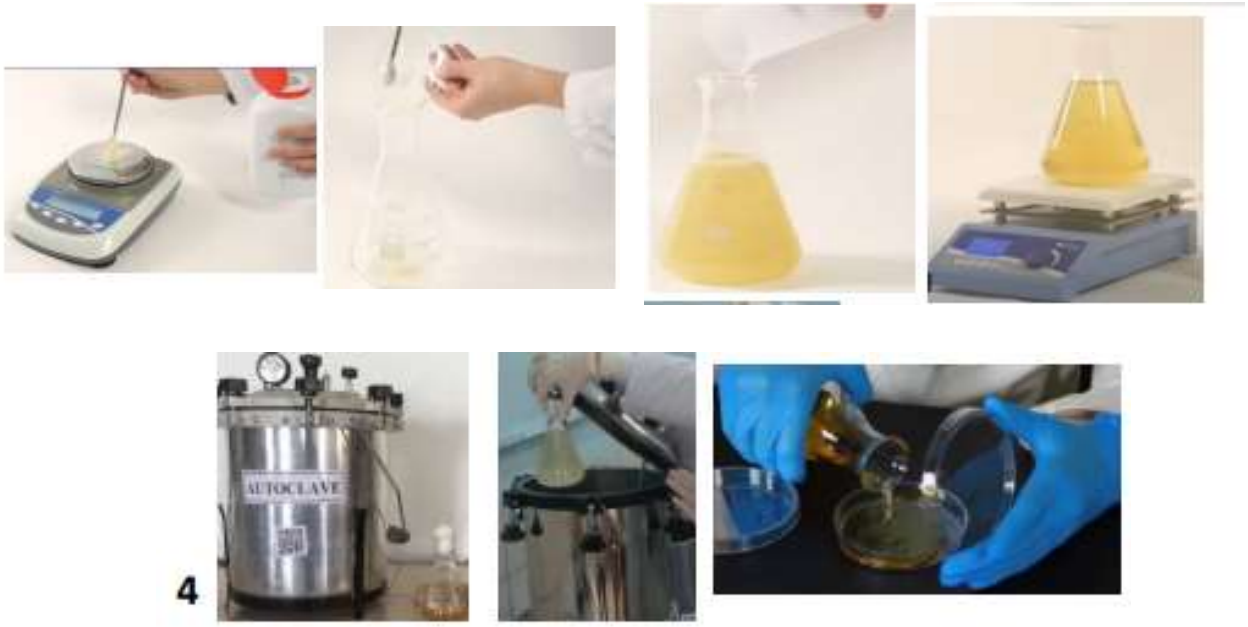
Preparation of culture media

1-Weightining the medium ingredients according to the direction written on its container.

2-Dissolve with little amount of D.W. then complete the volume to the volume you want and may be need using heating and stirrer for complete dissolving.

3-Sterilization by autoclave.

5-Dispensed agar medium into petri dish when the heat reach to 45.



Sterility test

This test mean putting the flasks tubes and plates which contain sterile media before using in incubator at 37C for 24 hr. to ensure that there is no contamination while preparing and pouring the media