



Basic Culture Media and Isolation Techniques Glossary

Agar: A solid form of media composed of a marine algae extract, a solidifying agent, peptone water, and nutrients.

α (Alpha) Hemolysis: A greening around a colony growing on a blood agar plate due to the partial lysis of red blood cells.

Anaerobe: Microorganisms that grow without oxygen.

Aseptic Techniques: Practices and procedures that reduce the contamination of cultures from microbes in the laboratory and inhibit laboratory microbes from being distributed into the environment or transmitting to the investigator.

β (Beta) Hemolysis: A clearing of the red blood cells around a colony grown on a blood agar plate. This clearing is due to an enzyme of the organism that lyses (disintegrates) the red blood cells.

Blood Agar (BAP): A nutrient culture medium that is enriched with whole blood and used for the growth of certain strains of bacteria. Five percent sheep blood agar is the most commonly used basic media and is generally part of any standard set up.

Disinfectant: Disinfection is eliminating or inhibiting microorganisms that can cause exposure or contamination. Certain disinfectants are used for specific purposes based on their strength and effectiveness.

***E. Coli*:** Chromogenic culture medium for *E. coli* 0157 is selective for this specific organism, producing mauve-colored colonies.

Enterococcus: Chromogenic culture medium for Enterococcus species allows for the differentiation between the species such as *Enterococcus faecalis* (blue-green colonies) and *Enterococcus faecium* (purple colonies).

Facultative anaerobes: Microorganisms that can grow in either aerobic or anaerobic conditions.

γ (Gamma) Hemolysis: When certain microorganisms are grown on blood agar and there is no evidence of hemolysis.

Infectious aerosols: Infectious aerosols are small liquid or solid particles suspended in the air that contain infectious agents. They can disperse throughout the laboratory and remain infective over time and distance. These particles are of a size that may be inhaled into the lower respiratory tract (<5 μm in diameter).

Infectious droplets: Droplets traditionally have been defined as larger infectious particles (>5 μm in diameter) that rapidly fall out of the air, contaminating gloves, the immediate work area, and the mucous membranes of the persons performing the procedure.

Microaerophilic: Microorganisms that require an atmosphere of decreased oxygen and increased carbon dioxide.

Non-selective medium: A simple culture medium that allows microorganisms to grow and multiply without a selection agent.

Normal Flora: Microorganisms that normally live in various areas of the human body.

Obligate anaerobes: Obligate anaerobic microorganisms that can grow only in anaerobic conditions (absence of oxygen). Conversely, obligate aerobic microorganism can grow only in aerobic conditions (requires oxygen).

Phenol red: A red crystal that is used as a pH indicator in cell cultures.

Selective Medium: Contain ingredients that promote or inhibit the growth of a particular microorganism or type of microorganism. Growth-inhibiting agents include dyes, acids, alcohols, and/or antibiotics.

Strep Throat: An infection caused by the microorganism *Streptococcus pyogenes*. There will be a clearing around colonies grown on BAP due to the hemolysis of red blood cells (β hemolysis) in the media.

Subculture: The method of transferring the microorganism to a fresh solid or liquid media using a sterile loop or pipette.

Transport Media: A special media that contains nutrients and preservatives to sustain the viability of microorganisms in a specimen during transport.

Trypticase Soy Agar (TSA): A general-purpose culture media that contains all the basic nutrients, vitamins, and minerals needed by many microorganisms to grow. This media is commonly used as a basis for media such as Blood agar.

X and V factor: X factor is hemin and V factor is nicotinamide-adenine-dinucleotide (NAD). Both are required for *H. influenzae* to grow.