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 due to the partial lysis of red blood cells.

Anaerobe- microorganisms that grow without oxygen.

ß (Beta) Hemolysis - a clearing of the red blood cells around a colony. This clearing around the colony is due to an enzyme of the microorganism that lyses 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.

γ (Gamma) Hemolysis - no evidence of hemolysis.

Microaerophilic - microorganisms that require an atmosphere of decreased oxygen and increased carbon dioxide.

Normal Flora - microorganisms that normally live in various areas of the human body.

Obligate Anaerobe - microorganisms that can only grow in anaerobic conditions (inhibited by oxygen). An obligate aerobe can only grow in aerobic conditions (requires oxygen).

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 (ß 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.

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.

This job aid is a component of the free, on-demand CDC training course “Basic Culture Media and Isolation Techniques: Microbiology Curriculum.” Find the course at https://reach.cdc.gov/training.

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References:

1. Forbes BA, Sahm DF, and Weissfeld AS. Bailey and Scott's Diagnostic Microbiology, 10th ed. St. Louis, Missouri. Mosby Inc., 2011.
2. Versalovic J, Carroll KC, Funke G, Jorgensen JH, Landry ML, and Warnock DW. Manual of Clinical Microbiology 12th ed. Washington, DC. ASM Press, 2011.

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