AG - METHYL RED REAGENT- IFU

PRINCIPLE:

AstraGene's Methyl Red reagent is recommended for use in qualitative procedures to test the ability of an organism to produce and maintain stable end products from glucose fermentation.
The Methyl Red test involves adding the pH indicator Methyl Red to an inoculated tube of MR-VP broth. Glucose is metabolized to pyruvic acid. Organisms metabolizing pyruvic acid by the mixed acid pathway will produce more acid end products, such as lactic acid and acetic acid, and maintain an acidic environment. The acidic pH produces a positive methyl red reaction and the color of the broth appears red or pink after the addition of Methyl Red Reagent. Organisms metabolizing pyruvic acid by the butylene glycol pathway will produce neutral end products, such as acetoin and butanediol, which will raise the culture back to a neutral pH which results in a negative methyl red reaction and the broth appears yellowish-orange after the addition of Methyl Red Reagent.

PACKAGE CONTENTS:

Description	Catalogue Number	Quantity
AG - Methyl Red Reagent	AG/Reagent/MR/23/01	200 mL

STORAGE & STABILITY:

This product is ready for use and no further preparation is necessary. Store product in its original container at 2-8ºC until use. Allow product to equilibrate to room temperature before use. Protect product from light.

SPECIMENS COLLECTION:

Specimens should be collected and handled following recommended guidelines.

MATERIALS REQUIRED BUT NOT PROVIDED

Loop sterilization device, Inoculating loop, Swabs, collection containers, Incubators, microbial growth media, Quality control organisms, Pipette, Test tubes, MR-VP Broth

DIRECTIONS/PROCEDURE:

1. Using a light inoculum from a pure 18–24-hour culture, inoculate MR-VP Broth.
2. Incubate in ambient air at 35-37°C for a minimum of 48 hours. (Prolonged incubation up to 5 days may be required.)
3. Following incubation, aseptically transfer 1 ml of the medium to a separate test tube to perform the Methyl Red (MR) test.
4. Add 1-2 drops of Methyl Red reagent to the aliquot of MRVP Broth.
5. Observe for an immediate red color development on the surface of the medium.

INTERPRETATION OF RESULTS:

- Positive: Pink or red color
- Negative: Yellowish-orange color

LIMITATIONS:

- The minimum incubation time for the MRVP Broth is 48 hours since the methyl red test is based on the complete metabolism of glucose and its major end product, pyruvic acid. Methyl red tests that are performed too early will result in false-positive results.
- If the methyl red test results are inconclusive (orange) after 48 hours, continue incubation of the broth for an additional three days and retest the broth culture.
- Avoid testing an extremely turbid broth-inoculum mixture. Bacterial growth is inhibited if the inoculum exceeds the maximum cell concentration of about 109 viable cells/ml
- The following variables should be standardized to obtain optimal and reproducible results: (a) the inoculum density, (b) the total volume of broth, and (c) the size of the test tube used. An orange color reaction often occurs when too large a volume of broth is used.

WARNING & PRECAUTIONS:

- For *In vitro* diagnostic use by professionals only.
- Directions should be read and followed carefully and do not use beyond the stated expiration dates.
- WARNING! Keep away from flame, sparks and heat and skin/eye contact.
- Safety precautions should be taken in handling, processing, and discarding all clinical specimens and other materials.
- This product should not be used if the color has changed, the expiration date has passed, or there are other signs of deterioration.

SYMBOLS:

Do not use if the package is damaged | Manufacturer | LOT Batch Code | CE mark of Conformity | Refer to the instructions | ISO 13485:2016 ISO | GMP

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