

BacterLab Division



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BIOCHEMICAL REAGENTS

BacterTest™ KOH

This reagent and α -Naphthol reagent are used in MR-VP culture medium to perform VP test.

Code: 06004



1. INTENDED USE

BacterTest™ KOH is one of the two main reagents (along with KOH) in the Voges-Proskauer method, playing an important role in creating the alkaline environment necessary for acetoin (or 3-hydroxybutanone) in the sample to react with α -Naphthol, forming a red or pink complex.

2. PRINCIPLES

BacterTest™ KOH is one of the two main reagents in this test, with an important role in the detection of acetoin.

- Acetoin (or 3-hydroxybutanone) is produced during the fermentation of glucose (or other carbohydrates) by some species of bacteria.
- When the culture medium contains acetoin, the α -Naphthol reagent will react with acetoin, forming a red or pink complex.
- KOH is necessary to increase the alkalinity of the medium, helping acetoin to convert into substances that can react with α -Naphthol, creating a recognizable color.

3. TYPICAL COMPOSITION

KOH (kali hydroxide)	40 g
Ethanol (C ₂ H ₅ OH) 95%	100 mL

4. PREPARATION

- The reagent dropper bottle is ready.

5. INSTRUCTIONS FOR USE

- Bacteria are cultured in prepared MR-VP medium after 24 – 48 hours at 37°C (to allow bacteria time to ferment glucose in the medium).
- Adding 0.5 mL of 40% KOH solution to the sample.
- Then, adding 3 – 4 drops of α -Naphthol reagent to the cultured bacteria sample.
- Reacting within minutes to hours.
- Observing the color change of the medium, reading and recording the results.

6. RESULTS

- Observe the color change of the environment:
 - + Red or pink = Positive (Bacteria that produce acetoin)
 - + Colorless or Yellow = Negative (Bacteria do not produce acetoin).

7. QUALITY CONTROL

BacterLab ensures the quality of each product batch by testing with ATCC reference strains.

REFERENCE STRAINS	CULTURE CONDITIONS	A-NAPHTHOL + KOH
Culture conditions: 18 – 24 hours, incubated at 35 – 37°C, inoculum $\leq 10^2$ CFU/mL		
<i>K. pneumonia</i> NCTC 13442	Good growth	(–): Red
<i>E. coli</i> ATCC 35218	Good growth	(+): Yellow or no change

8. STORAGE AND TRANSPORT CONDITIONS

- Storage: 8 – 25°C.
- Transportation: Ambient temperature.

9. PACKAGING

- Packaging: 100 mL/ dropper bottle or as per customer request.

10. SHELF LIFE

- Expiration Date: 12 months from the manufacturing date.

11. BIBLIOGRAPHY

- MR-VP Broth (Methyl-red VOGES-PROSKAUER Broth) Available at:
https://www.merckmillipore.com/INTL/en/product/1-Naphthol,MDA_CHEM-106223#anchor_TI