



Voges-Proskauer Reagent Droppers

A B

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INTENDED USE

Voges-Proskauer Reagent Droppers are intended for use in the Voges-Proskauer test, one of several qualitative tests used to distinguish between members of the *Enterobacteriaceae*.¹

SUMMARY AND EXPLANATION

The Voges-Proskauer test is one of the series known as the IMViC tests. The letters stand for Indole, Methyl Red, Voges-Proskauer, and Citrate. (The "I" is inserted for euphony.) They are used primarily to distinguish between the coliforms, but may be used for other organisms in the *Enterobacteriaceae* family. Specifically, the Voges-Proskauer test detects the presence of acetylmethylcarbinol. This compound is produced by certain microorganisms during growth in a buffered peptone-glucose broth, specifically MR-VP broth.¹

PRINCIPLES OF THE PROCEDURE

Upon addition of Voges-Proskauer reagents A and B to a culture tube of MR-VP broth, any acetylmethylcarbinol present will be oxidized to diacetylmethylcarbinol. The latter compound reacts with creatine (from the broth) to form a red-colored compound. The presence of this compound is detected visually and is considered a positive test.¹

REAGENTS

Voges-Proskauer Reagent A Droppers contain 0.5 mL of 5% wt/vol alpha-naphthol in absolute alcohol.

Voges-Proskauer Reagent B Droppers contain 0.5 mL of 40% wt/vol potassium hydroxide in distilled water.

Precautions: *in vitro* Diagnostic

Voges-Proskauer Reagent B is caustic. Avoid contact with the skin. Rinse thoroughly with water if spilled.

Storage instructions: Store at room temperature 15 - 30°C (59 - 86°F).

Reagents are hermetically sealed in an ampule, which affords protection of the solution from chemical instability until expiration date. The reagent droppers need no refrigeration. Opened reagent droppers should be disposed of within 24 h.

PROCEDURE

Material Provided: Voges-Proskauer Reagent Droppers.

Materials Required But Not Provided: Ancillary culture media, quality control organisms and laboratory equipment as required for these procedure.

Directions For Use

1. Hold upright and **POINT TIP AWAY FROM YOURSELF**. Grasp the middle with thumb and forefinger and squeeze gently to break ampule inside the dropper. **Caution: Break ampule close to its center one time only. Do not manipulate the dropper any further as the plastic may puncture and injury may occur.** Tap bottom on tabletop a few times.
2. Invert for drop-by-drop dispensing according to the test procedure performed.

A. Standard Method (Barritt's Modification)¹

Inoculate buffered peptone-glucose broth (MR-VP medium) with a pure culture of the organism in question. Incubate the culture at 37°C for no less than 48 h.

Empty contents (15 drops) from reagent A dropper and 5 drops from reagent B dropper into 1 mL of broth culture. Shake well after the addition of each reagent to aerate sample.

A positive reaction is indicated by the development of a distinct red color which occurs within 5 min. The development of a copper color in some tests should be disregarded.

B. Other Methods

Voges-Proskauer Reagent Droppers can be used to achieve highly accurate tests with the commercially prepared bacterial identification systems. Follow the manufacturer's instructions for use.

LIMITATIONS OF THE PROCEDURE

One should allow at least 15 min for color to develop before considering the Voges-Proskauer test negative.

User Quality Control

Using either of the methods described above (Directions for Use), an authentic culture of *Enterobacter cloacae* or *Serratia marcescens* will yield a positive result, while *Escherichia coli* or *Salmonella enteritidis* will yield a negative result.

AVAILABILITY

Cat. No. Description

261192 Voges-Proskauer Reagent A Droppers, packaged 50 droppers/carton.

261193 Voges-Proskauer Reagent B Droppers, packaged 50 droppers/carton.

REFERENCES

1. Lennette, E.H., A. Balows, W.J. Hausler, Jr., and H.J. Shadomy (ed.) 1985. Manual of clinical microbiology, 4th ed. American Society for Microbiology, Washington, D.C.

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