

The MR-VP Tests To differentiate the *Enterobacteriaceae* [*Escherichia* vs *Enterobacter*]

Additional references:

1. Textbook
 - a. Ch

MR Test: identify ability to produce stable acid end products by mixed acid fermentation of glucose

2. Photo Atlas
 - a. p 67 (methyl red)
 - b. p 80-81 (VP)

MR Test: identify ability to produce acetoin from digesting glucose via a 2,3-butanediol fermentation

Terms:

- **Methyl red indicator:** red at pH 4.4; yellow at pH 6.2
- **MR-VP broth:** differential (?)
 1. 1. includes peptone, glucose, and a phosphate buffer
 - Peptone, glucose provide protein, fermentable carbohydrate
 - Potassium phosphate used to buffer pH changes in the medium

Methyl Red	<ul style="list-style-type: none"> • Procedures: inoculate tube of MR-VP broth and incubate • Used to identify bacteria that produce stable acid end products by means of mixed acid fermentation of glucose. 	<ul style="list-style-type: none"> • +: red
VP: Voges-Proskauer	<ul style="list-style-type: none"> • Procedures: same as Methyl red • This test is used to identify organisms able to produce acetoin from the degradation of glucose during a 2,3-butanediol fermentation. 	<ul style="list-style-type: none"> • +: red

