

# K390 MALONATE UTILIZATION TABLETS

## PRINCIPLE/DISCUSSION:

Organisms which utilize malonate will produce an alkaline end product which changes the color indicator. Key Malonate Utilization Tablets are used for differentiation of Enterobacteriaceae.

## ACTIVE INGREDIENTS:

Each tablet contains 20 mg. of sodium malonate.

## MATERIAL SAFETY DATA:

This product does not contain any material known at this time to be hazardous.

## MATERIALS REQUIRED:

Malonate tablets are provided 50 tablets per bottle. Malonate tablets require fresh 24 hour growth on media appropriate for the specimen you are testing. Consult a clinical microbiology manual for suggestions. The following items are required but not provided: small test tubes (e.g. 12 x 75), Inoculating Loop, Distilled water, pH 7.0-7.2

## STORAGE:

Store tightly covered, with dessicant, in a dry place at room temperature.

## QUALITY CONTROL:

Known positive and negative organisms should be tested with each bottle. Key recommends *Enterobacter aerogenes* ATCC 13048 for positive control and *Escherichia coli* ATCC 25922 as negative. Dispose of all used material in a manner appropriate for biohazardous material.

## PROCEDURE:

- (1) Add one malonate tablet to 1 ml. of distilled water in a small test tube. It may be necessary to heat the tube to dissolve the tablet.
- (2) Inoculate cooled tube with a loopful of 24 hour growth or 2 drops of a heavy suspension in distilled water. Incubate for up to 24 hours at 35-37C.
- (3) Observe for color change periodically. If no color change has occurred by 24 hours, the test is negative.

## INTERPRETATION OF RESULTS:

A color change from the original straw color to red is a positive test, indicating that the organism has utilized the malonate and produced the alkaline end product.

## SOME EXPECTED REACTIONS:

<i>Enterobacter</i>	+
<i>Citrobacter diversus</i>	+
<i>Klebsiella</i>	+
<i>Salmonella (subgroups Arizona)</i>	+
<i>Salmonella (other subgroups)</i>	-
<i>Shigella</i>	-
<i>E. coli</i>	-
<i>Proteus</i>	-

## REFERENCES:

- (1) Manual of Clinical Microbiology, Fifth Edition, Chapter 36, "Enterobacteriaceae" and Chapter 120, "Quality Control".
- (2) Bailey and Scott's Diagnostic Microbiology, Seventh Edition, Chapter 45 "Formulas and Preparations of Culture Media and Reagents"



KEY SCIENTIFIC PRODUCTS, INC  
1113 EAST REYNOLDS STREET  
STAMFORD, TEXAS 79553  
VOICE 800-843-1539  
FAX 888-440-4208  
WWW.KEYSCIENTIFIC.COM