

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"



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