

CM 20758 - GLUCONATE TEST MEDIUM

INTENDED USE

For detection of gluconate oxidizing microorganisms.

PRODUCT SUMMARY AND EXPLANATION

GluconateTestMedium is used indetection of gluconate oxidizing microorganisms. This medium is used to check the ability of an organism to oxidize gluconates, the sole carbon source, to the reducing compound 2-keto-gluconate which subsequently accumulates in the medium.

Gluconate Test: Inoculate the medium with the growth from an 18-24 hours' pure culture (e.g. Kligler Iron Agar or Triple Sugar Iron Agar and incubate at 37°C for 48 hours. Then add 1 ml of Benedicts reagent for reducing sugars, place the tube in boiling water bath for 10 minutes and observe for the production of a coloured precipitate of cuprous oxide.

Positive: green to orange precipitate

Negative: the blue colour of the reagent is unchanged

COMPOSITION

Ingredients	Gms / Ltr
Casein peptone	1.500
Yeast extract	1.000
Dipotassium hydrogen phosphate	1.000
Potassium gluconate	40.000

PRINCIPLE

Caseinpeptone and yeast extract provides nitrogen and other nutrients necessary to support bacterial growth.

Dipotassium hydrogen phosphate buffers the medium. The basis of the test is the change from gluconate, (a non-reducing compound) to 2-keto-gluconate (a reducing compound), which is tested using a suitable reagent (Benedicts reagent). A 4% w/v solution of potassium salt of gluconate is used since at the end of 48 hours of incubation, this amount permits *Pseudomonas aeruginosa* to accumulate at least 50% of potassium 2-ketogluconate.

INSTRUCTION FOR USE

Dissolve 43.5 grams in 1000 ml distilled water.

Heat to boiling to dissolve the medium completely.

Dispense 2 ml in screw cap bottles.

Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Off-white to light yellow homogeneous free flowing powder.

Appearance of prepared medium : Light straw coloured, clear solution.

pH (at 25°C) : 7.0±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Gluconate test	Incubation Temperature	Incubation Period
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Escherichia coli	25922	50-100	Luxuriant	Negative, no colour change, medium remains blue or bluish green	35-37°C	18-48 Hours
Pseudomonas aeruginosa	27853	50-100	Luxuriant	Positive, yellow To orange red precipitate	35-37°C	18-48 Hours
Citrobacter freundii	8090	50-100	Luxuriant	Negative, no colour change, medium remains blue or bluish green	35-37°C	18-48 Hours
Klebsiella pneumoniae	13883	50-100	Luxuriant	Positive, yellow To orange red precipitate	35-37°C	18-48 Hours

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

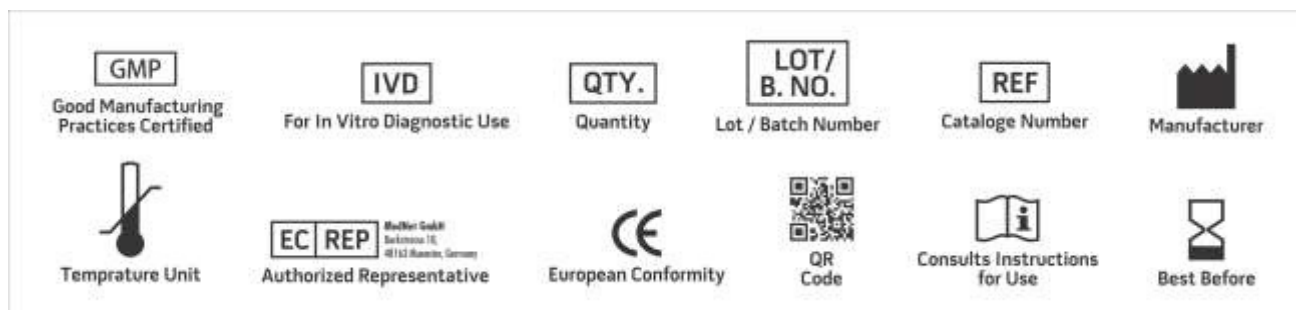
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

- Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone.
- Hynes W. C., 1951, J. Gen. Microbiol., 5: 939.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

*For Lab Use Only

