TM 1965 – ANTIBIOTIC ASSAY MEDIUM C (as per BP)

INTENDED USE
For turbidimetric assay of a wide variety of antibiotics.

PRODUCT SUMMARY AND EXPLANATION
This medium is used in turbidimetic assay of several antibiotics. The composition of the medium is in accordance to the specifications detailed in the British Pharmacopoeia. Turbidimetric methods for determining the potency of antibiotics are inherently more accurate and more precise than comparable agar diffusion procedures.
Turbidimetric antibiotic assay is based on the change or inhibition of growth of a test microorganims in a liquid medium containing a uniform concentration of an antibiotic. Use of this method is appropriate only when test samples are clear.

COMPOSITION

Ingredients	Gms / Ltr
Peptone	6.000
Beef extract	1.500
Yeast extract	3.000
Sodium chloride	3.500
Glucose monohydrate	1.000
Dipotassium hydrogen phosphate	3.680
Potassium dihydrogen phosphate	1.320

PRINCIPLE
Peptone, beef extract and yeast extract provide essential nutrients and growth factors for enhanced microbial growth. Sodium chloride maintains the osmotic equilibrium while phosphates are incorporated in the medium to provide good buffering action. Glucose monohydrate serves as the carbon and energy source for faster growth.

INSTRUCTION FOR USE
- Dissolve 19.9 grams (the equivalent weight of dehydrated medium per litre) in 1000 ml R-water/ purified /distilled water.
- Heat with frequent agitation to dissolve the medium completely.
- Dispense into tubes or flasks as desired. Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes or as per validated cycle.
- Adjust the pH of the medium, using freshly prepared buffer solution as recommended by the British pharmacopoeia for the antibiotic assayed.

Advice: Recommended for the microbiological assay of Colistimethate sodium, Dihydrostreptomycin sulphate, Erythromycin estolate, Erythromycin ethylsuccinate, Framycetin sulphate, Gentamicin sulphate, Gramicidin, Kanamycin acid sulphate, Kanamycin monosulphate, Neomycin sulphate, Rifamycin sodium, Spiramycin, Streptomycin sulphate,Tylosin, Tylosin tartarate, Tyrothricin and Vancomycin hydrochloride according to British Pharmacopoeia.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to yellow coloured homogeneous free flowing powder.
Appearance of prepared medium	: Light yellow coloured clear solution without any precipitate.
pH (at 25°C)	: 7.0±0.1

INTERPRETATION

Cultural characteristics observed after incubation. (Key :- While assaying Josamycin and Josamycin propionate adjust the pH of the medium to 8.0 ± 0.1 2.# - While assaying Vancomycin hydrochloride, the incubation temperature is maintained at 37-39°C)

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Serial dilution with	Incubation Temperature	Incubation Period
Escherichia coli	9637	50-100	Luxuriant	Colistimethate sodium	35-37°C	18-24 Hours
Escherichia coli	10536	50-100	Luxuriant	Rifamycin sodium	35-37°C	18-24 Hours
Enterococcus hirae	10541	50-100	Luxuriant	Gramicidin, Tyrothricin	35-37°C	18-24 Hours
Klebsiella pneumoniae	10031	50-100	Luxuriant	Dihydrostreptomycin sulphate, Streptomycin sulphate	35-37°C	18-24 Hours
Staphylococcus aureus subsp. aureus	6538	50-100	Luxuriant	Erythromycin estolate, Erythromycin ethylsuccinate, Erythromycin stearate, Framycetin sulphate, Gentamicin sulphate, Gramicidin, Kanamycin monosulphate, Kanamycin acid sulphate, Neomycin sulphate, Spiramycin, Tobramycin, *Josamycin, Josamycin propionate, #Vancomycin hydrochloride	35-37°C	18-24 Hours
Staphylococcus aureus	9144	50-100	Luxuriant	Tylosin, Tylosin tartarate	35-37°C	18-24 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.

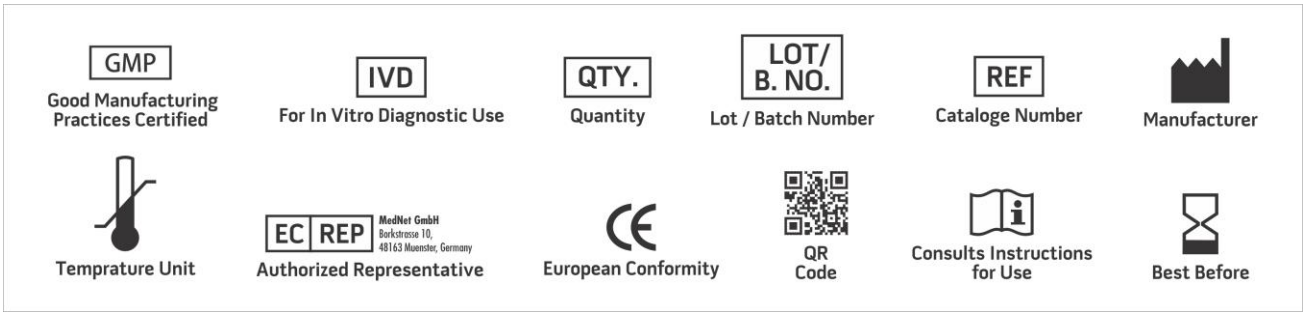
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

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

REFERENCES

1. British Pharmacopoeia, 2016, TheStatinery Office, British Pharmacopoeia
2. Chapin-Robertson and Edberg, 1991, Measurement of Antibiotics in Human Body fluids:Techniques and significance. Antibiotics in Laboratory medicine, New York pp 305
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
4. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual Clinical Microbiology, 11th Edition. Vol. 1.
5. Rippere RA. Some principles of microbiological turbidimetric assays of antibiotics. J Assoc Off Anal Chem.1979 62(4):951-6.



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

***For Lab Use Only**

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