TM 361 – BRAIN HEART INFUSION AGAR

INTENDED USE

For cultivation of fastidious pathogenic bacteria, yeasts and molds.

PRODUCT SUMMARY AND EXPLANATION

Brain Heart Infusion Agar is a general purpose plating medium used for the isolation, cultivation, and maintenance of a variety of fastidious and nonfastidious microorganisms. Brain Heart Infusion Agar is a modification of the medium described by ROSENOW in which the brain tissue has been replaced by brain extract and the calcium carbonate by di-sodium hydrogen phosphate. BHI Agar supplemented with (5 to 10%) defibrinated sheep blood is used extensively for the recovery of dimorphic fungi such as Histoplasma capsulatum and other pathogenic fungi such as Coccidioides immitis. A more selective formulation containing chloramphenicol and cycloheximide is also available that will allow the recovery of pathogenic fungi while inhibiting a wide range of bacteria and saprophytic fungi. McDonough et al. demonstrated that the temperature of incubation may alter the sensitivity of some pathogenic fungi to antibiotics; it is therefore recommended that both an antimicrobic containing medium and non-selective medium be used on primary isolates at both 25°C and 35°C.

COMPOSITION

Ingredients	Gms / Ltr
Calf brain infusion powder	12.500
Proteose peptone	10.000
Beef heart infusion powder	5.000
Sodium chloride	5.000
Disodium hydrogen phosphate	2.500
Dextrose	2.000
Agar	15.000

PRINCIPLE

The mixture of brain and heart infusions provides organic nitrogen, carbon, and vitamins. Dextrose is the carbohydrate source. A low concentration of dextrose is used to stimulate early growth. Sodium chloride maintains the osmotic environment. Disodium phosphate is the buffering agent in this medium. With the addition of 7% defibrinated blood the medium will support the growth of a wide range of fastidious and non-fastidious organisms, the phosphate buffer will help neutralize the acids produced from the utilization of dextrose and thus maintain viability. BHI agar can be supplemented with antibiotics, varying amounts varying amounts of Sodium chloride, Yeast extract, and serum to provide a rich medium for bacteria, yeasts and pathogenic fungi.

INSTRUCTION FOR USE

- Dissolve 52.0 grams in 1000 ml purified / distilled water.
- Gently heat to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi (121°C) for 15 minutes.
- Cool to 45-50°C. If desired add 20 unit of Penicillin and 40µg Streptomycin/ml of medium may be added to make the medium selective for fungi.
- Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium : Basal medium: Light amber colour, clear to slightly opalescent gel.
After addition of 5% v/v sterile defibrinated blood: Cherry red colour, opaque gel.
pH (at 25°C) : 7.4±0.2

INTERPRETATION

Cultural characteristics observe after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
Escherichia coli	25922	50-100	Luxuriant	>=70%	35-37°C	18-24 Hours
Streptococcus pneumoniae	49616	50-100	Luxuriant	>=70%	35-37°C	18-24 Hours
Staphylococcus aureus	25923	50-100	Luxuriant	>=70%	35-37°C	18-24 Hours
Shigella flexneri	12022	50-100	Luxuriant	>=70%	35-37°C	18-24 Hours
Candida albicans	10231	10-100	Luxuriant	>=70%	35-37°C	18-24 Hours

PACKAGING:

In pack size of 100 gm and 500 gm bottles.

STORAGE

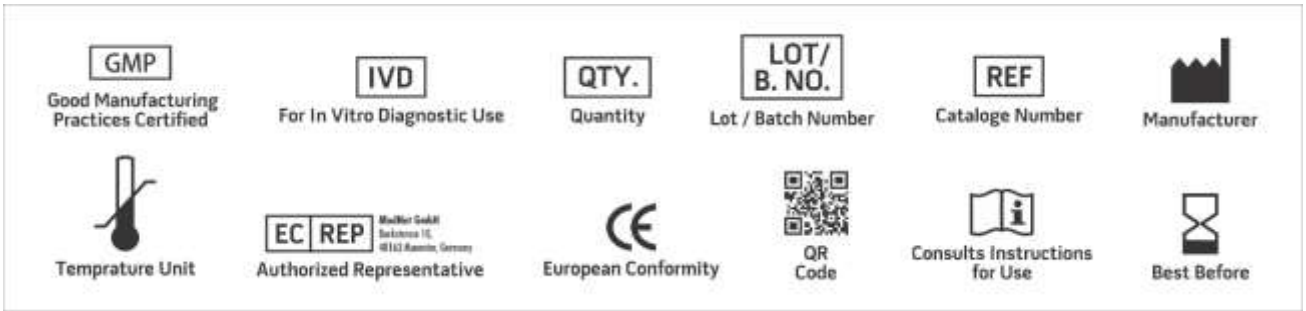
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 10-25°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided 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. Rosenow, E.C. 1919. Studies on elective localization. Focal infection with special reference to oral sepsis. The Journal of Dental Research, Vol. 1, No. 3: 205 - 267.
2. Atlas, R.M. 1997. Handbook of microbiological media, 2nd ed., p. 195 - 198, CRC Press, Boca Raton, USA.
3. MacFaddin, J.F. 1985. Media for isolation-cultivation-identification-maintenance of medical bacteria, Vol. 1, p. 92 - 95, Williams & Wilkins, Baltimore, USA.
4. McDonough E., Geoge L., Ajello L. and Brinkman S., Mycopathol. Mycol. Appl.; 13, 113 (1960).



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

***For Lab Use Only**

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