

## TM 2160 – LEVINTHALS MEDIUM BASE

### INTENDED USE

For cultivation of *Haemophilus* species

### PRODUCT SUMMARY AND EXPLANATION

The genus *Haemophilus* includes a number of species that cause a wide variety of infections but share a common morphology and a requirement for blood-derived factors during growth that has given the genus its name. *Haemophilus influenzae*, the major pathogen, is by far the most virulent organism in this group, commonly causing bloodstream invasion and meningitis in children younger than 2 years. Other *Haemophilus* species cause disease less frequently. The *Haemophilus* genus represents a large group of gram-negative rods that grow on blood agar. The blood provides two factors, which many *Haemophilus* species require for growth: factor-X and factor-V.

Levinthals Medium is used for the cultivation of *Haemophilus* species. *Haemophilus* species require haemoglobin for their growth in the culture medium.

### COMPOSITION

Ingredients	Gms / Ltr
Pancreatic digest of gelatin	10.000
Beef extract	10.000
Sodium chloride	5.000
Agar	20.000

### PRINCIPLE

This medium consists of Pancreatic digest of gelatin, Beef extract which provides nutrients such as nitrogen compounds. Sodium chloride helps to maintain osmotic balance of the medium. Whole blood of rabbit or human blood contains two important factors viz factor-X and factor-V, which are necessary for the growth of type species of *H. influenzae*. Factor-X is a heat stable substance, the hemin associated with haemoglobin, whereas factor-V is a heat labile coenzyme Nicotinamide Adenine Dinucleotide. Pathogenic *Haemophilus* species may be presumptively identified by determining in vitro growth requirements for X and V factors and by haemolytic reactions.

### INSTRUCTION FOR USE

- Dissolve 45.0 grams in 1000 ml purified/distilled water.
- Heat to boiling to dissolve the medium completely.
- Dispense in 100 ml amounts and sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 50°C and add 5 ml sterile rabbit or human blood to 100 ml medium.
- Heat the mixture in boiling water bath. Allow the deposits to settle and dispense clear supernatant.

### QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium	: Basal medium: Light yellow coloured clear to slightly opalescent gel After addition of blood & heating : Chocolate brown coloured, opaque gel forms in Petri plates.
pH (at 25°C)	: 7.6 ± 0.2

### INTERPRETATION



Cultural characteristics observed with added sterile rabbit or human blood, under 5-10% CO<sub>2</sub> and 70% humidity after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
<i>Haemophilus influenzae</i>	35056	50-100	Luxuriant	>=70%	35-37°C	18-24 Hours
<i>Staphylococcus aureus</i>	25923	50-100	Luxuriant	>=70%	35-37°C	18-24 Hours
<i>Streptococcus pyogenes</i>	19615	50-100	Luxuriant	>=70%	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**

- Sell S. H., Wright P. F., (Eds.), *Haemophilus influenzae*, Epidemiology, Immunology, and Prevention of Disease, Elsevier Biomedical, New York, 1982, St. Geme J. W.,III, Falkow S: *Infect and Immun*, p.4036, 1990
- Finegold S. M. and Baron E. J., 1986, *Bailey and Scotts Diagnostic Microbiology*, 7th Ed., The C.V. Mosby Company, St. Louis.

 GMP Good Manufacturing Practices Certified	 IVD For In Vitro Diagnostic Use	 QTY. Quantity	 LOT/ B. NO. Lot / Batch Number	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 EC REP Authorized Representative <small>MedNet GmbH Borkstrasse 10, 48163 Münster, Germany</small>	 CE European Conformity	 QR Code	 Consults Instructions for Use	 Best Before

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

\*For Lab Use Only  
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