# A green and blue logo  Description automatically generated

**Hoyel Medium base**

Hoyle Medium Base is a highly selective medium used for the isolation and differentiation of Corynebacterium diphtheriae types.

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| REF: V.1/HM01.100 100 GramREF: V.1/HM01.500 500 Gram | REF: V.1/HM01.250 250 Gram |

## CLINICAL SIGNIFICANCE

## The most common disease caused by Corynebacterium diphtheriae is diphtheria, an acute communicable disease manifested by both local infection of the upper respiratory tract and the systemic effects of the toxin, which are most notable in the heart and peripheral nerves (6). Hoyle Medium Base, formulated by Hoyle (2), is the modification of the original formulation of Neill, for the isolation and differentiation of C.diphtheriae. This medium is not inhibitory to some mitis types of Corynebacterium , as the original formulation.

## METHOD PRINCIPLE

## Peptone and HM peptone B supply carbon, nitrogen substances, amino acids, vitamins and other essential growth nutrients. Potassium tellurite is a selective agent, which inhibits most of the normal flora of the upper respiratory tract except Corynebacterium. Hoyle's Medium is a highly selective medium and should be used in conjunction with a nonselective media such as Loeffler Serum Medium and Blood Agar Base with 10% horse blood (3). C.diphtheriae are usually present in small numbers permitting the formation of well isolated colonies. So, inoculation is done by directly rubbing the swab over the entire surface of the medium. Incubation should be carried out till 72 hours if the results are negative. To study the morphology, gentian violet staining is done. To demonstrate the characteristic morphology and staining reactions of C.diphtheriae by Neissers or Alberts method, it is advisable to use colonies from Loeffler Medium. The toxigenicity of C.diphtheriae strains can be determined by Eleks (1) method.

## MEDIA COMPOSITION

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| Item | Formula per liter of medium |
| * Peptone
* Beef extract
* Sodium chloride
* Agar
 | 10.00 gm.10.00 gm.5.000 gm.15.00 gm. |

***Final pH 7.8 ± 0.2 at 25°C***

**PRECAUTIONS AND WARNINGS**

Media to be handled by entitled and professionally educated person. Do not ingest or inhale.

Good Laboratories practices using appropriate precautions should be followed in:

* Wearing personnel protective equipment (overall, gloves, glasses,).
* Do not pipette by mouth.
* In case of contact with eyes or skin; rinse immediately with plenty of soap and water. In case of severe injuries; seek medical advice immediately.
* Respect country requirement for waste disposal.

S56: dispose of this material and its container at hazardous or special waste collection point.

S57: use appropriate container to avoid environmental contamination.

S61: avoid release in environment.

For further information, refer to the Hoyel Medium Base Material safety data sheet.

 **EQUIPMENT REQUIRED NOT PROVIDED**

* + Sterile plates
	+ Incubator
	+ Autoclave

## STORAGE AND STABILITY

**Lab.Vie**.Hoyel medium base should be stored between 10-30°C in a firmly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to avoid lump development due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in a dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

## PREPARATION

* Suspend 40.0 grams in 940 ml purified/distilled water.
* Adjust pH to 7.8 ± 0.2 at 25°C
* Heat to boiling to dissolve the medium completely.
* Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.
* Cool to 45-50°C and aseptically add 50 ml of laked blood and 10 ml of 3.5% Potassium Tellurite Solution.
* Mix well and pour into sterile Petri plates.

**Deterioration**

The color of **Lab.Vie**.Hoyel medium base is Cream to yellow homogeneous free flowing powder. Prepared Basal Medium is Amber coloured, clear to slightly opalescent gel. After Addition of blood & Tellurite Brownish red coloured opaque gel forms in Petri plates. If there are any physical changes for powder or signs of deterioration (shrinking, cracking, or discoloration), and contaminations for hydrated media, discard the medium.

## SPECIMEN

## Clinical samples - Blood;

## Food and dairy samples;

## Water samples

## QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control values are found outside the defined range, check the system performance. If control still out of range please contact **Lab.Vie**. technical support.

## PERFORMANCE CHARACTERISTICS

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| **Organism** | **Growth** | **Colony Characteristics** |
| *Bacillus subtilis subsp. spizizenii ATCC 6633* | Inhibited  | - |
| *C. diphtheriae type intermedius 14779* | luxuriant | grey colonies with darker centers |
| *Corynebacterium diphtheriae type mitis* | luxuriant | grey colonies with shining surface |
| *Escherichia coli ATCC 25922* | Inhibited  | - |
| *Enterococcus faecalis ATCC 29212* | luxuriant | black minute colonies |

## REFERENCES

1. Elek S. D., 1948, Brit. Med. A1:493. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
2. Hoyle I., 1941, Lancet., 1:175. Thom and Church, 1926, The Aspergilli, 39.
3. Isenberg, H.D. Clinical Microbiology Procedures Handb0ook. 2 nd 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 of Clinical Microbiology, 11th Edition. Vol. 1.
5. .MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.
6. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Yolken R. H., 8th Ed., American Society for Microbiology, Washington, D.C. (Ed.), 2003, Manual of Clinical Microbiology.

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| **SYMBOLS IN PRODUCT LABELLING** |
| **IVD** | For in-vitro diagnostic use | Number of <n> test in the pack |
| **LOT** | Batch Code/Lot number | Caution |
| **REF** | Catalogue Number | Do not use if package isdamaged |
|  | Temperature Limitation |  Consult Instruction for use |
|  | Expiration Date |  |
|  | Manufactured by |  |

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