

**Dextrose Azide Broth**

Azide Dextrose Broth is used for detection and enumeration of Streptococci in water, sewage, food and other materials suspected of sewage contamination.

|  |  |
| --- | --- |
| REF: V.1/DB01.100 100 Gram REF: V.1/DB01.500 500 Gram | REF: V.1/DB01.250 250 Gram |

# CLINICAL SIGNIFICANCE

Enterococci are more resistant to chlorine in water, hence are better indicators of sewage pollution than Escherichia coli . Until 1984, members of the genus Enterococcus were classified as Group D Streptococci. Upon genomic DNA analysis, a seperate genus status was provided to them. (7). Azide Dextrose Broth is recommended by APHA for enumeration of faecal Streptococci by MPN technique. Azide Dextrose Broth was initially formulated by Rothe, Mullmann and Seligmann (2,3) for quantitative determination of Enterococci in water, sewage, foods and other materials suspected of contamination with sewage. When large volumes of water samples are to be examined, double strength medium is used. Turbidity in tubes indicates presence of Enterococci, however, it should be further confirmed by inoculation in Ethyl Violet Azide Broth.

METHOD PRINCIPLE

# Azide Dextrose Broth is a highly nutritious medium due to the presence of nutrient rich peptone special, Beef extract and dextrose. Sodium azide inhibits growth of gram-negative bacteria, allowing Enterococci to grow (1,4,5). Streptococci detected by the above media should be further identified using chemicals (6).

# MEDIA COMPOSITION

|  |  |
| --- | --- |
| Item | Formula perliter of medium |
| * Peptone
* Beef extract
* Dextrose
* Sodium chloride
* Sodium Azide
 | 154.57.57.50.2 |

**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 Dextrose Azide Broth material safety data sheet.

# STORAGE AND STABILITY

**Lab.Vie**. Dextrose Azide Broth dehydrated media are stable until expiration date stated on label when properly stored 10-30°C. The prepared medium should be stored 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.

***Final pH 7.2 ± 0.2 at 25°C***

# MEDIA PREPARATION

1. Suspend 34.7 grams in 1000 ml distilled water for preparing single strength broth or use 69.4 grams in 1000 ml distilled water for double strength broth.
2. Adjust pH to 7.2 ± 0.2 at 25°C
3. Heat, if necessary, to ensure complete solution.
4. Dispense in test tubes and sterilize by autoclaving at 118°C for 15 minutes.

**Deterioration**

The color of **Lab.Vie**. Dextrose Azide Broth is Cream to yellow homogeneous free flowing powder. If there are any physical changes, discard the medium.

The hydrated medium is Amber coloured clear solution without any precipitate, media should not be used if there are any signs of deterioration (shrinking, cracking, or discoloration), and contaminations.

# SPECIMEN COLLECTION AND PRESERVATION

Food samples ; Water and sewage samples

# EQUIPMENT REQUIRED NOT PROVIDED

* Sterile cups
* Sterile tubes
* Sterile loops
* Incubator

# PERFORMANCE CHARACTERISTICS

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature

|  |
| --- |
| **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 is damaged |
|  | Temperature Limitation |  Consult Instruction for use |
|  | Expiration Date |  |
|  | Manufactured by |  |

#  Cultural characteristics observed after an incubation at 30ºC for 40-48 hours.

|  |  |
| --- | --- |
| Test Organisms | Growth |
| Escherichia coli ATCC 25922 | Good - Luxuriant |
| Enterococcus faecalis ATCC 29212 | Good - Luxuriant |

# 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.

# REFERENCES

1.Eaton A.D.,Clesceri L.S., and Greenberg A.E.,(Eds), 1998, Standard Methods for the Examination of Water and Wastewater, 20th Ed., APHA, Washington, D.C.

2. Mallmann and Seligmann , 1950, Am. J. Publ. Health, 40:286.

3. Rothe, 1948, Illinois State Health Department.

4. Edwards S.J., 1933, J. Comp. Path. Therap., 46:2111.

5. Hartman G., 1937, Milchw. Forsch, 18:166.

6. MacFaddin J.F.,1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical bacteria, Vol.1. Williams &Wilkins, Baltimore, Md.

7. Schleider K.H., Kilpper Bolz R., 1984, Int.J.Sys.Bacteriol., 34:31

9. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed.,

8.American Public Health Association, Washington, D.C. 8. American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed., Washington D.C.

10.Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.

11.Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.

12. Isenberg, H.D. Clinical Microbiology Procedures Handb0ook. 2nd Edition. 13.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.

 **Ismailia – Free zone, Ismailia – Egypt IFU-S-02, Rev. 03 - December 201**9

**Post code-4151**

 **E-mail :** **admin@labvielab.com**

 **Website:** [**www.labvielab.com**](http://www.labvielab.com)