W-L NUTRIENT MEDIUM (7488)

Intended Use

W-L Nutrient Medium is used for the cultivation of yeasts, molds, and bacteria encountered in brewing and industrial fermentations.

Product Summary and Explanation

W-L Nutrient Medium was developed by Green and Gray[1,2] while studying various fermentation processes. An exhaustive study examining methods of fermentation control procedures in worts, beers, liquid yeasts and similar fermentation products led to the development of W-L Nutrient Medium. At a pH of 5.5, counts of viable baker's yeast will grow on W-L Nutrient Medium.

W-L Nutrient Medium is also referred to as "Wallerstein Laboratory Medium".

Principles of the Procedure

Yeast Extract is a source of trace elements, vitamins, and amino acids. Enzymatic Digest of Casein provides nitrogen, amino acids, and carbon. Dextrose is a source of carbohydrate. Monopotassium Phosphate buffers the medium. Potassium Chloride, Calcium Chloride, and Ferric Chloride are essential ions and help to maintain osmotic balance. Magnesium Sulfate and Manganese Sulfate are sources of divalent cations. Bromcresol Green is a pH indicator. Agar is the solidifying agent.

Formula / Liter

Yeast Extract	4 g
Enzymatic Digest of Casein	5 g
Dextrose	50 g
Monopotassium Phosphate	0.55 g
Potassium Chloride	0.425 g
Calcium Chloride	0.125 g
Magnesium Sulfate	0.125 g
Ferric Chloride	0.0025 g
Manganese Sulfate	0.0025 g
Bromcresol Green	0.022 g
Agar	20 g

Final pH: 5.5 ± 0.2 at 25°C

Formula may be adjusted and/or supplemented as required to meet performance specifications.

Precaution

1. For Laboratory Use.

Directions

1. Suspend 80 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

Quality Control Specifications

Dehydrated Appearance: Powder is homogeneous, free flowing, and light beige with a green tint.

Prepared Appearance: Prepared medium is trace to slightly hazy and slightly opalescent blue-green.

Expected Cultural Response: Cultural response on W-L Nutrient Medium at 35°C after 18 - 48 hours incubation.

Microorganism	Response
Escherichia coli ATCC® 25922	growth
Lactobacillus fermentum ATCC® 9338	growth
Proteus mirabilis ATCC® 12453	growth
Saccharomyces cerevisiae ATCC® 9763	growth

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure

Refer to appropriate references for specific procedures. For a complete discussion on the isolation and identification of yeasts, refer to references outlined in the references.[3,4]

Results

Refer to appropriate references and procedures for results.

Storage

Store sealed bottle containing the dehydrated medium at 2 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

Expiration

Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitation of the Procedure

Due to varying nutritional requirements, some strains may be encountered that grow poorly or fail to grow on this medium.

Packaging

W-L Nutrient Medium	**Code No.**	**7488A**	**500 g**
		7488B	**2 kg**
		7488C	**10 kg**

References

1. **Green, S. R., and P. P. Gray.** 1950. Paper read at American Society of Brewing Chemists Meeting. Wallerstein Lab. Commun. **12:**43.
2. **Green, S. R., and P. P. Gray.** 1950. A differential procedure applicable to bacteriological investigation in brewing. Wallerstein Lab. Commun. **13:**357.
3. **Murray, P. R., E. J. Baron, M. A. Pfaller, F. C. Tenover, and R. H. Yolken (eds.).** Manual of clinical microbiology, 6th ed. American Society for Microbiology, Washington, D. C.
4. **Isenberg, H. D. (ed.).** 1992. Interpretation of aerobic bacterial growth on primary culture media, Clinical microbiology procedures handbook, vol. 1 p. 1.61-1.6.7. American Society for Microbiology, Washington, D.C.

Technical Information

Contact Acumedia Manufacturers, Inc. for Technical Service or questions involving dehydrated culture media preparation or performance at (410)780-5120 or fax us at (410)780-5470.