WL Nutrient Agar
SKU: 700004506, 700004507, 700004508, 700004509
NCM0118

Intended Use
W-L Nutrient Agar is used for the cultivation of yeasts, molds, and bacteria encountered in brewing and industrial fermentations. W-L Nutrient Agar is not intended for use in the diagnosis of disease or other conditions in humans.

Description
W-L Nutrient Medium was developed by Green and Gray 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".

Typical Formulation

Yeast Extract	4.0 g/L
Enzymatic Digest of Casein	5.0 g/L
Dextrose	50.0 g/L
Monopotassium Phosphate	0.55 g/L
Potassium Chloride	0.425 g/L
Calcium Chloride	0.125 g/L
Magnesium Sulfate	0.125 g/L
Ferric Chloride	0.0025 g/L
Manganese Sulfate	0.0025 g/L
Bromocresol Green	0.022 g/L
Agar	20.0 g/L

Final pH: 5.5 ± 0.2 at 25°C
Formula is adjusted and/or supplemented as required to meet performance specifications.

Precaution
Refer to SDS

Preparation
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.
4. Cool to 45-50°C.

Test Procedure
1. Refer to appropriate references for specific procedures.
2. For a complete discussion on the isolation and identification of yeasts, refer to references outlined in the references.

Quality Control Specifications
Dehydrated Appearance: Powder is homogeneous, free flowing, and light bluish or greenish beige.

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

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Expected Cultural Response: Cultural response on W-L Nutrient Medium incubated at appropriate atmosphere and temperature and examined for growth after 18 - 48 hours.

Microorganism	Approx. Inoculum (CFU)	Recovery
Candida albicans ATCC® 10231	$>10^4$	Growth
Escherichia coli ATCC® 25922	50-200	>50%
Lactobacillus fermentum ATCC® 9338	50-200	>50%
Proteus mirabilis ATCC® 12453	50-200	>50%
Saccharomyces cerevisiae ATCC® 9763	50-200	>50%

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

Results
Refer to appropriate references and procedures for results.

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.

Storage
Store dehydrated culture media at 2 – 30°C away from direct sunlight. Once opened and recapped, place the container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

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.

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