



PRODUCT SPECIFICATION SHEET

Glucose Cysteine Agar Base w/ Thiamine (DM814)

Intended Use

Glucose Cysteine Agar Base with Thiamine (DM814) is recommended for cultivation and enumeration of *Pasteurella tularensis*, with added blood / haemoglobin / hemin.

Product Summary and Explanation

Francisella tularensis, a gram-negative aerobic bacillus, is the etiological agent of tularemia, which is primarily a disease of wild animals that is perpetuated in nature by ectoparasites, contaminated environment, cannibalism and acute or chronic carriers. Biting and blood sucking insects serve as vectors.⁽¹⁾ *Francisella* (formerly known as *Pasteurella*) is a fastidious facultative intracellular bacterium which cannot be cultured on ordinary medium but require a complex medium containing blood or tissue extracts, thiamine and cysteine for growth.^(2, 3) Glucose Cysteine Agar Base w/ Thiamine when supplemented with blood / haemoglobin is recommended for cultivation and enumeration of *F.tularensis* (*Pasteurella tularensis*).⁽⁴⁾

Principles of the Procedure

Glucose Cysteine Agar Base w/ Thiamine contains meat peptone and papaic digest of soyabean meal which provide nitrogen, carbon and essential growth nutrients. Dextrose serves as an easily metabolisable carbohydrate source. Sodium chloride maintains the osmotic balance. Thiamine and cysteine hydrochloride serves as growth factor promoters required for culturing *Pasteurella*.

Formula / Liter

Ingredients	Gms / Liter
Meat peptone	3.00
Papaic digest of soyabean meal	10.00
Sodium chloride	5.00
Cysteine hydrochloride	1.00
Dextrose	25.00
Thiamine	0.0005
Agar	14.00
Final pH: 6.9 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

Precautions

1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions

1. Suspend 58 grams of the medium in one liter of distilled water.
2. Heat to boiling, to dissolve the medium completely.
3. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.
4. Cool to 45-50°C and aseptically add sterile packed erythrocytes at a final concentration of 2% or 4-5% defibrinated sheep/rabbit blood.
5. Mix well and pour into sterile petri plates.





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Quality Control Specifications

Dehydrated Appearance	Cream to yellow homogeneous free flowing powder
Prepared Medium	Basal medium: Amber coloured, clear to slightly opalescent gel forms On addition of 4-5% sterile defibrinated sheep/rabbit blood: cherry red coloured opaque gel forms in Petri plates
Reaction of 5.8% Solution	pH : 6.9 ± 0.2 at 25°C
Gel Strength	Firm, comparable with 1.4% Agar gel

Expected Cultural Response : Cultural characteristics observed with added 4-5% defibrinated sheep blood after an incubation at 35-37°C for 48-72 hours in presence of 10% CO₂.

Sr. No.	Organisms	Results to be achieved
		Inoculum (CFU)
1.	<i>Francisella tularensis</i> ATCC 29684	good- luxuriant

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

Test Procedure

Refer to appropriate references for standard test procedures.

Results

Minute droplet like colonies develops in 48 hours. Refer appropriate references and procedures for interpretation of results.

Storage

Store the sealed bottle containing the dehydrated medium at 10 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

Expiration

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

Limitations of the Procedure

1. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
2. Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name *Glucose Cysteine Agar Base w/ Thiamine*

Product Code : DM814

Available Pack sizes : 100gm/ 500gm





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References

1. Murray P. R., Baron J. H., Pfaller M. A., Tenover J. C. and Tenover F. C., (Eds.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.
2. Collee J. G., Marmion B. P., Fraser A. G., and Simmons A., (Eds.), Mackie and McCartney Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone, New York.
3. Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, 2004, 5th Ed., OIE World Organization for Animal Health.
4. Atlas R. M., 2004, Handbook of Microbiological Media, Lawrence C. Parks, (Ed.), 3rd Edition, CRC Press, pg. no 717.

Further Information

For further information please contact your local MICROMASTER Representative.



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