



PRODUCT SPECIFICATION SHEET

Brucella Vitamin K1 Blood Agar Base (DM1040)

Intended Use

Brucella Vitamin K1 Blood Agar Base (DM1040) is recommended for isolation and subculture of anaerobes especially *Brucella* species.

Product Summary and Explanation

Brucella is a genus of Gram-negative bacteria and they are normal flora of the genital and urinary tracts of many animals including goats, pigs, cows and dogs. *Brucella* is the cause of brucellosis, which is a zoonosis transmitted by ingesting contaminated food (such as unpasteurized milk products), direct contact with an infected animal, or inhalation of aerosols; the disease is particularly common among abattoir workers.⁽¹⁾ Brucellosis in humans has a variable incubation period, an insidious or abrupt onset and no pathognomic symptoms or signs.

Brucella Agar was designed for cultivating *Brucella* species from diagnostic specimens. With the incorporation of blood or other nutritious substances, it facilitates the cultivation of variety of fastidious anaerobic organisms.⁽²⁾ Sutter et al⁽³⁾ modified Brucella Blood Agar Base by the addition of Vitamin K1. Brucella Vitamin K1 Blood Agar Base is a highly enriched medium, which can be used for the isolation of anaerobic bacteria.^(4,5)

Principles of the Procedure

Brucella Vitamin K1 Blood Agar Base contains casein enzymic hydrolysate, peptic digest of animal tissue and yeast extract which serves as sources of carbon, nitrogen and essential growth nutrients including B-complex vitamins. Dextrose is a source of energy and carbon. Addition of blood supplies nutrients and helps to differentiate hemolytic organisms.^(2,3) Addition of hemin and Vitamin K1 supports growth of other fastidious bacteria like *Bacteroides* species and gram-positive spore bearers like *Clostridium* species.⁽⁶⁾

Formula / Liter

Ingredients	Gms / Liter
Casein enzymic hydrolysate	10.00
Peptic digest of animal tissue	10.00
Dextrose	1.00
Yeast extract	2.00
Sodium chloride	5.00
Sodium bisulphite	0.10
Agar	15.00
Final pH : 7.0 ± 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 43.1 grams of the medium in one litre 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 5% v/v sterile defibrinated sheep blood.
5. Aseptically add sterile Vitamin K1 solution to give a final concentration of 10 mcg/ml.
6. Mix well before pouring into sterile Petri plates.

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Quality Control Specifications

Dehydrated Appearance	Light yellow to tan homogeneous free flowing powder
Prepared Medium	Basal medium :Light amber coloured clear to slightly opalescent gel After addition of K1 & 5% v/v sterile defibrinated blood: Cherry red coloured opaque gel forms in Petri plates
Reaction of 4.3% Solution	pH : 7.0 ± 0.2 at 25°C
Gel Strength	Firm, comparable with 1.5% Agar gel

Expected Cultural Response: Cultural characteristics observed in presence of 10% CO₂, under anaerobic condition with added 5%v/v defibrinated sheep blood and Vitamin K1, after an incubation at 35-37°C for 48 hours .

Sr. No.	Organisms	Results to be achieved
		Growth
1.	<i>Bacteroides fragilis</i> ATCC 25285	good-luxuriant
2.	<i>Clostridium perfringens</i> ATCC 13124	good-luxuriant

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

Test Procedure

1. The specimen should be inoculated onto the plate (reduced earlier by placing under anaerobic conditions for 18- 24 hrs) as early as possible.
2. Swab cultures are directly streaked. Non-swab cultures are inoculated using an inoculating loop.
3. Incubation is carried out anaerobically at 35°C for at least 48 hours; however, negative results should be reported only after an incubation for 7 days.
4. Refer to appropriate references for standard test procedures.

Results

Refer to appropriate references for interpretation of results.

Storage

Store the 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.

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 : Brucella Vitamin K1 Blood Agar Base

Product Code : DM1040

Available Pack sizes : 500gm

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References

1. Baron E. J., Finegold S. M., (Eds.), 1990, Bailey and Scotts Diagnostic Microbiology, 8th Ed., The C.V. Mosby Co., St. Louis.
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3. Sutter V. L., Citron D. M. and Finegold S. M., 1985, Wadsworth Anaerobic Bacteriology Manual, 4th Ed., Star Publishing Co., Belmont, Ca.
4. Zennette, Balows, Hausler and Shadomy, (Eds.), 1985, Manual of Clinical Microbiology, 4th Ed., ASM, Washington, D.C.
5. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.
6. Gibbons and MacDonald, 1960, J. Bacteriol., 80:164.

Further Information

For further information please contact your local MICROMASTER Representative.



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