

Brucella HiVeg™ Agar Base / Broth Base / Modified MV074/ MV348/MV074A

Brucella HiVeg Agar Base / Broth Base and Modified with supplement is recommended for enrichment, isolation and cultivation of *Brucella* or *Campylobacter* species from clinical and nonclinical specimens.

Composition** :

	MV074	MV348	MV074A
Ingredients	Grams/Litre	Grams/Litre	Grams/Litre
HiVeg hydrolysate	10.00	10.00	15.00
HiVeg peptone	10.00	10.00	5.00
Yeast extract	2.00	2.00	2.00
Dextrose	1.00	1.00	1.00
Sodium chloride	5.00	5.00	5.00
Sodium bisulphate	0.10	0.10	0.10
Agar	15.00	—	15.00
Sodium citrate	—	—	1.00

Final pH (at 25°C) 7.0 ± 0.2

** Formula adjusted, standardized to suit performance parameters

Directions :

Suspend 21.55 grams of MV074 or 14.05 grams of MV348 or 22 grams of MV074A in 500 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and aseptically add sterile 5% v/v inactivated horse serum (RM1239), (inactivate RM1239 by heating at 56°C for 30 minutes) and rehydrated contents of one vial of Brucella Selective Supplement, (FD005). Mix well before pouring into sterile petriplates / tubes.

Principle and Interpretation :

These media are prepared by using HiVeg peptone and HiVeg hydrolysate instead of peptic digest of animal tissue and casein enzymic hydrolysate respectively in the conventional media, thus making it free of BSE/TSE risks. *Brucella* species are highly infectious and so extreme care should be taken while handling. These media are the modification of the media formulated so as to support luxuriant growth of fastidious bacteria like *Brucella* species, *Streptococci*, *Pneumococci*, *Listeria*, *Neisseria meningitidis* and *Haemophilus influenzae* (1).

HiVeg peptone and HiVeg hydrolysate provide organic nitrogen to the organisms. Yeast extract serves as a source of Vitamin B complex. And additionally it also supplies some nitrogenous nutrients. Sodium bisulphite is a reducing agent and sodium chloride maintains the osmotic equilibrium. Dextrose serves as an energy source. It can be enriched with 5% v/v sterile defibrinated horse blood. For selective isolation of *Brucella* species, antibiotic mixtures are incorporated into the base (2, 3, 4). Farrel and Robinson formulated a highly selective antibiotic medium (5). When non-selective medium is required, Brucella HiVeg Broth Base may be employed with the addition of serum only (i.e. without antibiotics). In MV074A, addition of sodium citrate serves as an additional carbon and energy source for growth of *Brucella*. It also acts as anticoagulant in detection of *Brucella* from blood cultures. It is suggested in case of broth medium that half the tubes be incubated in the normal atmosphere, and half in a 10% CO₂ enriched atmosphere. All presumptive anaerobic organisms must be further confirmed by additional tests.

Product Profile :

Vegetable based (Code MV)©	Animal based (Code M)
MV074/MV348/MV074A HiVeg peptone HiVeg hydrolysate	M074/M348/M074A Peptic digest of animal tissue Casein enzymic hydrolysate
Recommended for	: Enrichment, isolation and cultivation of <i>Brucella</i> or <i>Campylobacter</i> species.
Reconstitution	: (MV074) : 43.1 g/l : (MV348) : 28.1 g/l : (MV074A) : 44.0 g/l
Quantity on preparation (500g):	(MV074) : 11.6 L (100g) : (MV074) : 2.32 L (500g) : (MV348) : 17.79 L (100g) : (MV348) : 3.55 L (500g) : (MV074A) : 11.36 L
pH (25°C)	: 7.0 ± 0.2
Supplement	: Brucella Selective Supplement (FD005) & Horse Serum (RM1239)
Sterilization	: 121°C / 15 minutes.
Storage	: Dry Medium - Below 30°C, Prepared Medium 2 - 8°C.

Quality Control :

Appearance of Powder

Light yellow coloured, may have slightly greenish tinge, homogeneous, free flowing powder.

Gelling

Firm, comparable with 1.5% Agar gel of MV074 or MV074A.

Colour and Clarity

Yellow coloured, clear to slightly opalescent gel forms in petri plates, clear solution in tubes.

Reaction

Reaction of 4.31% w/v of MV074 or 2.81% w/v of MV348 or 4.4% w/v of MV074A aqueous solution is pH 7.0 ± 0.2 at 25°C.

Cultural Response

Cultural characteristics observed after an incubation at 35°C for 24 - 72 hours, in presence of 10% CO₂ with added sterile 5% v/v inactivated Horse Serum (RM1239) and Brucella Selective Supplement (FD005).

Organisms (ATCC)

Organisms (ATCC)	Growth
<i>Brucella abortus</i> (4315)	luxuriant
<i>Brucella melitensis</i> (4309)	luxuriant
<i>Brucella suis</i> (4314)	luxuriant
<i>Escherichia coli</i> (25922)	inhibited
<i>Staphylococcus aureus</i> (25923)	inhibited

References :

1. Finegold et al (Ed.), 1990, Bailey and Scott's Diagnostic Microbiology, 8th ed., The C.V. Mosby Co., St. Louis.
2. Jones L. M. and Brinley M.W.J., 1958, Bull. Wld. Hlth. Org., 19:200.
3. Kuzdas C.D., and Morse E.V., 1953, J. Bact., 66 (4):502.
4. Renoux G., 1954, Ann. Inst. Pasteur, 87 (3):325.
5. Farrel I.D. and Robinson L., 1972, J.Appl. Bact., 35:625.