



Door openers for Microbiology

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Interpretation of Codes

Dehydrated Culture Media - Powder forms	M
Granulated forms	GM
Encapsulated forms	EC
Depending on origin	- Vegetable (HiVeg™) MV
	Synthetic (HiCynth™) MCD
Specific applications	- Pharma
	Harmonized Media (USP/BP/JP/EP) MH
	European Pharma only ME
	US Pharmacopoeia only MU
	British Pharmacopoeia only M...B
Reference source	
ISO referenced Media; M...I	BIS (Bureau of Indian Standards) referenced Media; M...S
FDA BAM referenced Media; M...F	Sterile Gamma irradiated products; M...G



Interpretation of Codes

Culture Media Bases: RM, RM...V & CR

Media Supplements: FD

Bacteriological Differentiation Aids

Stains: S

Indicators: I

Reagents: R

Antimicrobial Susceptibility Systems

Ezy MIC™ strips: EM

HiComb™ MIC Test: MD

Single Discs: SD

Hexa Discs: HX

Octo Discs: OD

Dodeca Discs: DE

Icosa Discs: IC



Interpretation of Codes

Product codes

What does the letters stand for?

GM1494**I**-500**G**

Packing size



Typical Label

HIMEDIA® REF

M899-500G

Net Content 500g

Campylobacter Enrichment Broth Base (Preston Enrichment Broth Base)

Hygroscopic; Keep tightly closed away from bright light. On receipt store at



No liability accepted for accidents in handling or use
LABORATORY USE ONLY

For In Vitro Diagnostics **IVD**

CE REP CEpartner4U
ESDOORMLAAN 13,
3951DB MAARN, NL

See M.R.P On Bottle/Pack (For India Only)

COUNTRY OF ORIGIN - INDIA
Company Certified for ISO 9001:2015
ISO 13485:2016, WHO GMP

Himedia Laboratories Pvt.Ltd.
Reg.off.: 23,Vadhani Ind. Est.,
LBS Marg, Mumbai-400086, India.
Works : B14-6, N.I.D.C., Dindhorji, Nashik, India.
Customer Care No.: 00-91-22-6116 9797
Email: techhelp@himediabios.com

Directions: (EN)

Suspend 12.5 grams in 470 ml purified/distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Aseptically add sterile 25 ml lysed horse blood and reconstituted contents of 1 vial of Campylobacter Supplement IV (Preston Selective Supplement) (FD042). Mix well and dispense in tubes or flasks as desired.

*For More Information Refer Technical Data

Use

Recommended for selective enrichment and cultivation of *Campylobacter* species from clinical and non-clinical samples.

**Standard Formula

Ingredients
Peptone 10.00
HM peptone B # 10.00
Sodium chloride 5.00
Final pH (at 25°C) 7.5±0.2
**Formula adjusted, standardized to suit performance parameters
Equivalent to Beef extract

Grams

10.00
10.00
5.00

Anweisungen (DE)

Lösen Sie 12,5 Gramm in 470 ml gereinigtem/destilliertem Wasser auf. Bei Bedarf erwärmen, um das Medium vollständig aufzulösen. Durch Autoklavieren für 15 Minuten bei 15 lbs Druck (121°C) sterilisieren. Auf 45-50°C abkühlen lassen. Aseptisch steriles 25 ml lysiertes Pferdeblut und rekonstituierten Inhalt von 1 Ampulle Campylobacter Supplement IV (Preston Selective Supplement) (FD042) zugeben. Gut mischen und je nach Wunsch in Röhren oder Flaschen verteilen.

Instructions: (FR)

Mettre en suspension 12,5 grammes dans 470 ml d'eau purifiée ou distillée. Si nécessaire, chauffer pour assurer la dissolution complète du milieu. Stériliser à l'autoclave à une pression de 15 lb (121 °C) pendant 15 minutes. Refroidir à 45-50 °C. Ajouter de façon aseptique 25 ml de sang de cheval lysé et le contenu reconstitué d'un flacon de supplément sélectif IV pour Campylobacter sur milieu Preston (FD042). Bien mélanger et répartir au choix dans des tubes à essai ou des flacons.

Instruções: (PT)

Suspender 12,5 gramas em 470 ml de água purificada/destilada. Aquecer se necessário para dissolver completamente o meio. Esterilizar em autoclave a 15 libras de pressão (121°C) por 15 minutos. Arrefecer a 45-50°C. Adicionar asepticamente 25 ml de sangue lisado de cavalo e o conteúdo reconstituído de 1 frasco de suplemento de Campylobacter IV (Suplemento Seletivo Preston) (FD042). Misturar bem e distribuir em tubos ou frascos conforme desejado.

Instrucciones: (ES)

Suspender 12,5 gramos en 470 ml de agua purificada/destilada. Calentar si fuera necesario hasta hervir para disolver el medio completamente. Esterilizar por autoclave a 15 lbs de presión (121°C) durante 15 minutos. Enfriar a 45-50°C. Añadir asepticamente 25 ml de sangre de caballo estéril y el contenido reconstituído de 1 vial de suplemento IV Campylobacter (suplemento selectivo Preston) (FD042). Mezclar bien y dispensar en tubos o matraces, tal como se prefiere.

LOT



8 902729 049129



Received _____ Opened _____
Expected Performance during specified expiry period when material is duly maintained in the original powder form



Disposal : User must ensure disposal by autoclaving and/or by incineration used or unusable preparations of this product and derivatives thereof on completion of work to avoid contagion

HIMEDIA®

For life is precious



Door Opener products



Folic Acid Casei Medium

Available Globally

HiMedia's Folic Acid Casei Medium, M543

For the microbiological assay of folic acid in blood serum

Using *Lactobacillus casei* ATCC 7469 as the test organism.



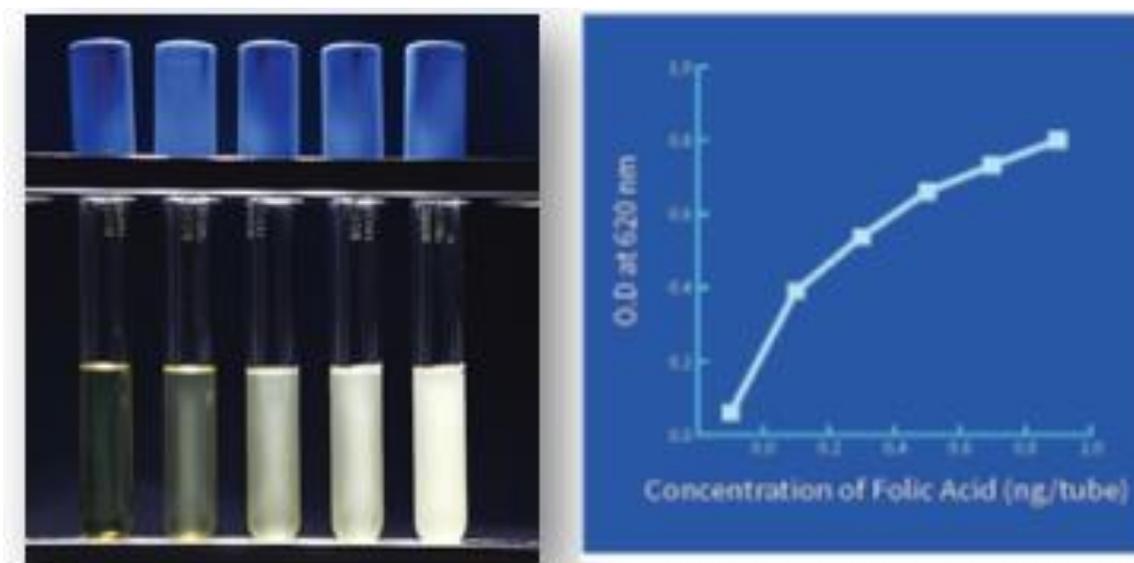


Folic Acid Casei Medium

How does it work?

Cell density of *Lactobacillus casei* is dependent on the folic acid content in the growth medium. By measuring the turbidity of the growth medium containing the sample, the folic acid content of the sample can be determined.

Users of Folic Acid Casei Medium are found in the clinical, pharmaceutical and food industry.

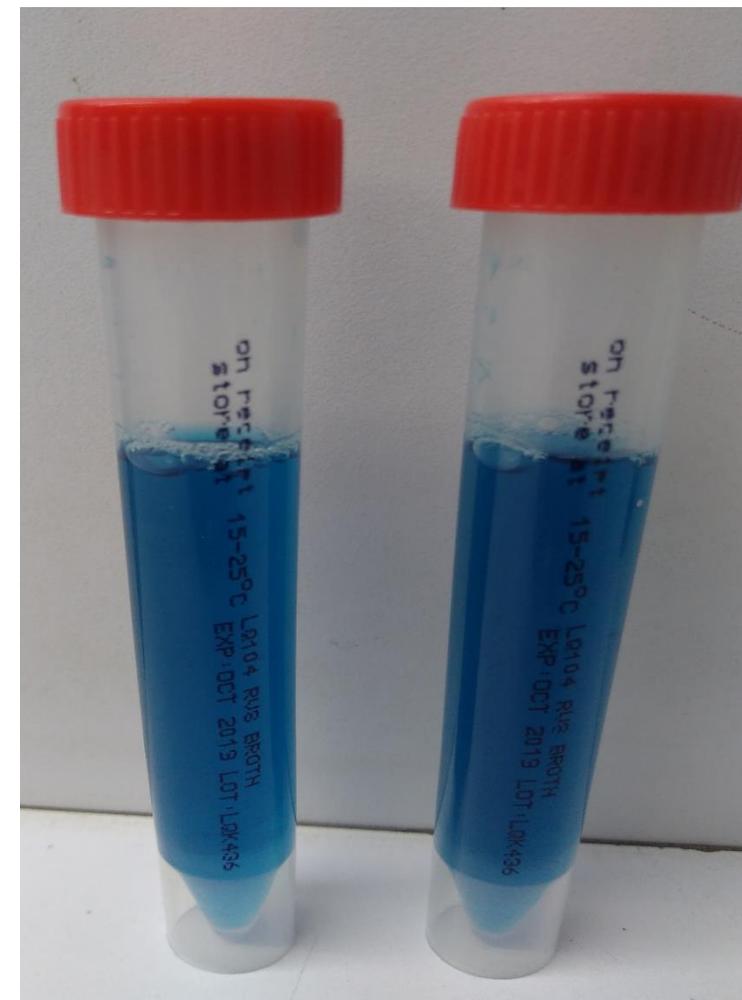


The folic acid concentration of the sample is determined by means of a standard curve



LQ104 - Rappaport Vassiliadis Medium

- Sterile Medium in Ready prepared form
- Convenient Pack sizes of 5 ML, 10 ML, 20 ML
- For direct inoculations of samples
- Recommended for Selective Enrichment Medium for Salmonella
- Sterilized by autoclaving at 115°C as per validated cycle
- Sterility assurance level assured by using Biological Indicator strips
- Formula in compliance with as per Pharmacopoeias USP, EP, BP, JP
- For use in Pharmaceuticals, Clinical and Food testing





LQ104 - Rappaport Vassiliadis Medium

2.6.13. Test for specified micro-organisms

EUROPEAN PHARMACOPOEIA 6.3

Table 2.6.13-1 – Growth promoting, inhibitory and indicative properties of media

	Medium	Property	Test strains
Test for bile-tolerant gram-negative bacteria	Enterobacteria enrichment broth-Mossel	Growth promoting	<i>E. coli</i> <i>P. aeruginosa</i>
		Inhibitory	<i>S. aureus</i>
	Violet red bile glucose agar	Growth promoting + indicative	<i>E. coli</i> <i>P. aeruginosa</i>
Test for <i>Escherichia coli</i>	MacConkey broth	Growth promoting	<i>E. coli</i>
		Inhibitory	<i>S. aureus</i>
	MacConkey agar	Growth promoting + indicative	<i>E. coli</i>
Test for <i>Salmonella</i>	Rappaport Vassiliadis <i>Salmonella</i> enrichment broth	Growth promoting	<i>Salmonella enterica</i> ssp. <i>enterica</i> serotype typhimurium or <i>Salmonella enterica</i> ssp. <i>enterica</i> serotype abony
		Inhibitory	<i>S. aureus</i>
	Xylose, lysine, deoxycholate agar	Growth promoting + indicative	<i>Salmonella enterica</i> ssp. <i>enterica</i> serotype typhimurium or <i>Salmonella enterica</i> ssp. <i>enterica</i> serotype abony
Indicative		<i>E. coli</i>	
Test for <i>Pseudomonas aeruginosa</i>	Cetrimide agar	Growth promoting	<i>P. aeruginosa</i>
		Inhibitory	<i>E. coli</i>
Test for <i>Staphylococcus aureus</i>	Mannitol salt agar	Growth promoting + indicative	<i>S. aureus</i>
		Inhibitory	<i>E. coli</i>
Test for clostridia	Reinforced medium for clostridia	Growth promoting	<i>Cl. sporogenes</i>
	Columbia agar	Growth promoting	<i>Cl. sporogenes</i>
Test for <i>Candida albicans</i>	Sabouraud dextrose broth	Growth promoting	<i>C. albicans</i>
	Sabouraud dextrose agar	Growth promoting + indicative	<i>C. albicans</i>

2. Methods of analysis



Rappaport Vassiliadis Medium (MH1491 & GMH1491)

- Recommended for selective enrichment of Salmonella from pharmaceutical products
- In accordance with the Tests for specified organisms-Non-Sterile products (formerly microbial limit testing) by harmonized methodology of USP/EP/BP/JP.
- Advised to sterilize by autoclaving at 115°C as per validated cycle as given in pharmacopoeia
- Available Pack sizes of 100G, 500G, 2.5KG , 5KG
- g/l of HiMedia MH1491 & GMH1491 is 27.11*
while g/l of Merck 1.07666.0500 is 42.5

*Loss of water molecules of magnesium chloride hexahydrate 29.0 g in medium is accounted in dehydrated medium



Rappaport Vassiliadis Medium (MH1491 & GMH1491)

EUROPEAN PHARMACOPOEIA 6.3

2.6.13. Test for specified micro-organisms

Neutral red 30.0 mg
Crystal violet 1 mg
Purified water 1000 ml

Adjust the pH so that after sterilisation it is 7.1 ± 0.2 at $25\text{ }^{\circ}\text{C}$. Boil for 1 min with constant shaking then sterilise in an autoclave using a validated cycle.

Rappaport Vassiliadis *Salmonella* enrichment broth

Soya peptone 4.5 g
Magnesium chloride hexahydrate 29.0 g
Sodium chloride 8.0 g
Dipotassium phosphate 0.4 g
Potassium dihydrogen phosphate 0.6 g
Malachite green 0.036 g
Purified water 1000 ml

Dissolve, warming gently. Sterilise in an autoclave using a validated cycle, at a temperature not exceeding $115\text{ }^{\circ}\text{C}$. The pH is to be 5.2 ± 0.2 at $25\text{ }^{\circ}\text{C}$ after heating and autoclaving.

Xylose, lysine, deoxycholate agar

Heat to boiling for 1 min with shaking. Adjust the pH so that after sterilisation it is 7.2 ± 0.2 at $25\text{ }^{\circ}\text{C}$. Sterilise in an autoclave using a validated cycle.

Mannitol salt agar

Pancreatic digest of casein 5.0 g
Peptic digest of animal tissue 5.0 g
Beef extract 1.0 g
D-Mannitol 10.0 g
Sodium chloride 75.0 g
Agar 15.0 g
Phenol red 0.025 g
Purified water 1000 ml

Heat to boiling for 1 min with shaking. Adjust the pH so that after sterilisation it is 7.4 ± 0.2 at $25\text{ }^{\circ}\text{C}$. Sterilise in an autoclave using a validated cycle.

Reinforced medium for clostridia

Beef extract 10.0 g
Peptone 10.0 g
Yeast extract 3.0 g

2. Methods
of analysis



Rappaport Vassiliadis Medium (MH1491 & GMH1491)



Technical Data

Rappaport Vassiliadis Salmonella Enrichment Broth

MH1491

Intended use

Rappaport Vassiliadis Salmonella Enrichment Broth is recommended for selective enrichment of *Salmonella* species from pharmaceutical products in accordance with the microbial limit testing by harmonized methodology of USP/EP/BP/JP.

Composition**

Ingredients	Gms / Litre
Soya peptone	4.500
Sodium chloride	8.000
Dipotassium phosphate	0.400
Potassium dihydrogen phosphate	0.600
Magnesium chloride, hexahydrate	29.000
Malachite green	0.036
pH after sterilization (at 25°C)	5.2±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 27.11 grams of dehydrated medium(the equivalent weight of dehydrated medium per litre) in| 1000 ml purified/ distilled water. Heat if necessary to dissolve the medium completely. Dispense as desired into tubes and sterilize by autoclaving at 115°C as per validated cycle

Principle And Interpretation

Rappaport Vassiliadis Salmonella Enrichment Medium is designed according to the revised formulation by Van Schothorst et al (1) and is recommended for the selective enrichment of Salmonellae from pharmaceutical products. This medium can

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HiVeg™ Medium for Pharma Microbiology



HiVeg™ Medium for Pharma

Reference for use of HiVeg™ products in pharma

3- General Considerations , 3-1: Scientific Principles for Minimizing risk

‘When manufacturers have a choice, the use of materials from ‘non TSE-relevant animal species’ or non-animal origin is preferred’

Source EP 8.0, 2014 <Section 5.2.8>

Minimising the risk of transmitting TSE via medicinal products.



HiVeg™ Medium for Pharma

product and therefore have the potential for contamination. Materials used in the qualification of plant and equipment, such as culture media used in media fill experiments to validate the aseptic filling process, shall be considered in compliance with this chapter provided that the constituent or constituents are derived from tissues with no detectable infectivity (category C tissues), where the risk of cross-contamination with potentially infective tissues has been considered (see section 3-3) and where the materials are sourced from a GBR I/II country (see section 3-2). Such information shall be provided in the dossier for a marketing authorisation and verified during routine inspection for compliance with Good Manufacturing Practice (GMP).

Other materials such as cleaning agents, softeners and lubricants that come into contact with the medicinal product during its routine manufacture or in the finishing stage or in the primary packaging are considered in compliance with this chapter if they are derived from tallow under the conditions described in section 6.

SEED LOTS, CELL BANKS AND ROUTINE FERMENTATION/PRODUCTION⁽³⁾

For the purpose of regulatory compliance, master seeds or master cell banks in marketing authorisation applications lodged after 1 July 2000 (for human medicinal products) or 1 October 2000 (for veterinary medicinal products) are covered by the note for guidance.

Master seeds and master cell banks,

- for vaccine antigens;
- for a biotechnology-derived medicinal product within the meaning of Part A of the Annex to Council Regulation (EC) No 2309/93; and
- for other medicinal products using seed lots or cell banking systems in their manufacture,

3. GENERAL CONSIDERATIONS

3-1. SCIENTIFIC PRINCIPLES FOR MINIMISING RISK

When manufacturers have a choice, the use of materials from “non-TSE-relevant animal species” or non-animal origin is preferred. The rationale for using materials derived from “TSE-relevant animal species” instead of materials from “non-TSE-relevant species” or of non-animal origin should be given. If materials from “TSE-relevant animal species” have to be used, consideration should be given to all the necessary measures to minimise the risk of transmission of TSE.

Readily applicable diagnostic tests for TSE infectivity *in vivo* are not yet available. Diagnosis is based on post-mortem confirmation of characteristic brain lesions by histopathology and/or detection of PrP^{Sc} by Western blot or immunoassay. The demonstration of infectivity by the inoculation of suspect tissue into target species or laboratory animals is also used for confirmation. However, due to the long incubation periods of all TSEs, results of *in vivo* tests are available only after months or years.

Several *in vitro* diagnostic tests capable of detecting PrP^{Sc} in brain samples from infected animals have been approved for use but in the main they are less sensitive than *in vivo* infectivity assays. Nonetheless, screening of source animals by *in vitro* tests may prevent the use of animals at late stages of incubation of the disease and may provide information about the epidemiological status of a given country or region.

Minimising the risks of transmission of TSE is based upon three complementary parameters:

- the source animals and their geographical origin,
- nature of animal material used in manufacture and any procedures in place to avoid cross-contamination with higher risk materials,

(3) Regulatory guidance and position papers have been issued by the Committee for Proprietary Medicinal Products and its Biotechnology Working Party on human tissue derived medicinal products in relation with CJD and vCJD. Such guidance can be found on <http://www.emea.eu.int>.

(4) Pigs and birds, which are animal species of particular interest for the production of medicinal products, are not naturally susceptible to infection via the oral route. Therefore they are not TSE-relevant animal species within the meaning of this chapter. Also dogs, rabbits and fish are non-TSE-relevant animal species within the meaning of this chapter.



HiFill™ Test HiVeg™



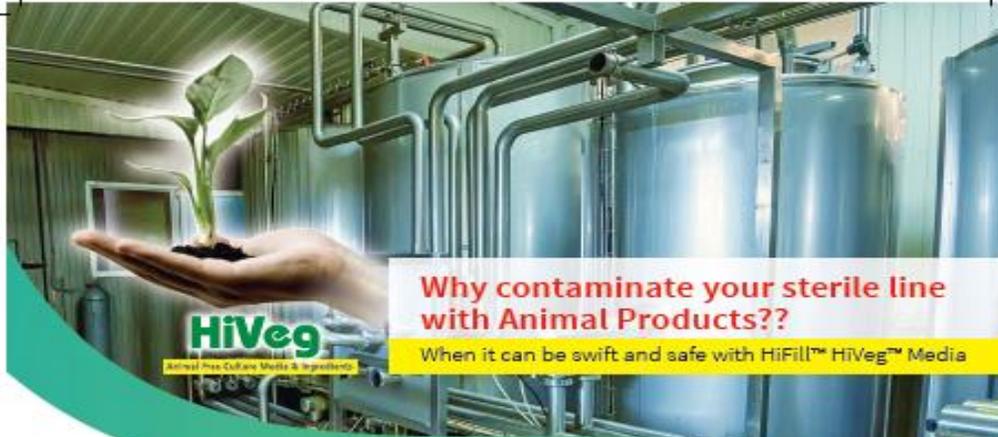
MV2018G

Microbial contamination is indicated by colour change from light yellow to maroon-red

- Beneficial to pharmaceutical sectors.
- In this line the HiFill™ Test Medium with the addition of Media Fill Trial (MFT) indicator, helps to verify the microbiological growth in aseptic production process.
- MFT Indicator in the medium is utilized by all microorganisms and the microbial contamination is indicated by colour change
- Easier method for detection of contamination with less time consumption.
- *Developed against Biomerieux equivalent : Media Fill 3P® It also contains a unique color indicator, changing from yellow to maroon-red in case of contamination.*



Soyabean HiVeg™ Medium



Why contaminate your sterile line with Animal Products??

When it can be swift and safe with HiFill™ HiVeg™ Media

HiVeg
Animal Free Culture Media & Supplements

MFT Media Fill Trial

Media fill studies, simulates the filling process during production and helps in detecting contamination in the production line, if any. Generally the commercial media is prepared, autoclaved and after filtering through a 0.2 micron sterilizing filter is used to investigate presence or absence of contamination. To make the process faster, efficient and safer; HiMedia provides **gamma irradiated dehydrated culture media** which can be directly used. Soyabean HiVeg™ medium sterile powder, γ -irradiated from vegetable source can be used.

3 - General Considerations

3-1: Scientific Principles for Minimising risk

"When manufacturers have a choice, the use of materials from 'non TSE-relevant animal species' or non-animal origin is preferred"

Source EP 8.0,2014 -Section 5.2.8-> Minimising the risk of transmitting TSE via medicinal products

Switch now to

Animal Free Media MV011G
Soyabean HiVeg™ Medium, Sterile Powder

Gamma Irradiated Medium for Media Fill Trial

Also available classical Tryptone Soya Broth as per USP **MH011G / GMH011G**

* Granulated form

HiMediaLaboratories™
himedialabs.com

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For Life is Precious

Media Fill : Maximum Benefits & Minimizing Risks with HiVeg™ Gamma Irradiated TSB.



Media fills simulate the whole process in order to evaluate the sterility confidence of the process. Process simulation studies include formulation, filtration and filling with suitable media. In general, a microbiological growth medium such as Tryptic Soy Broth should be used. Use of anaerobic growth media [e.g. Fluid Thioglycollate medium] should be considered in special circumstances.

With the spurt in number of BSE symptoms across global bovine population & and its exhibit CJD in humans concerns were raised about bovine origin products.

Elimination of BSE/TSE Risk can be achieved by use of raw material from right origin & right parts of the animal. Definition of Risk Categories by EU:

- Category A: High Infectivity (e.g. brain, spinal cord)
- Category B: Moderate infectivity (e.g. spleen, lung, liver)
- Category C: No infectivity found (e.g. milk, bile, skeletal muscle, heart, skin)

HiMedia only sources from risk category 'C' for its products. Moreover as per the Definition of Geographical BSE Risk by EU, raw material sourced from India has no listings. In spite of such a proven track record of quality, a step further to provide more secure process HiVeg™ culture media was launched. Both USP & EP preferred or recommend that alternative, non-animal source ingredients be substituted for animal-source ingredients whenever possible.

The risk of Mycoplasma is always lurking in the raw material. Moreover Mycoplasma can move through 0.2 mm filters & Reach high titers (10^7 - 10^8 cfu/ml) without producing pH changes or media turbidity proving itself as inviable threat. In such cases a prudent step ahead to provide medium quality assurance is to provide γ -irradiated TSB.

γ -Irradiation does not affect product performance, and results in a Contaminant-free material, this has been evaluated by comparative studies on growth performance of pharmacopoeia listed pathogens. Thus HiVeg™ γ -irradiated TSB is the choice of a prudent quality system.

Introduced gamma irradiated HiFill™ Test Medium recommended for the evaluation of sterility in manufacturing process for easy detection of contamination. The medium is designed with TSB containing an MFT indicator wherein the colour change is from yellow to pink red.

Reference:

- The USP Perspective to Minimize the Potential Risk of TSE- Infectivity in Bovine-derived Articles Used in the Manufacture of Medical Products; with Ian DeVeau and Roger Dabbah. Pharmacopoeial Forum. 30(5):1911-1921.2004
- European Pharmacopoeia (Supplement 6.3), 2008, European Department, for the Quality of Medicines.

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HiMedia No.	Product Range for Media Fill trials
M011G-500G M011G-2.5KG M011G-5KG	Soyabean Casein Digest Medium, Sterile Powder γ -irradiated sterile powder recommended for the evaluation of sterility in manufacturing process.
MV011G-500G MV011G-2.5KG MV011G-5KG	Soyabean HiVeg Medium, Sterile Powder γ -irradiated sterile powder recommended for the evaluation of sterility in manufacturing process.
GMV011G-500G	Soyabean HiVeg Medium, Granulated, Sterile γ -irradiated sterile powder recommended for the evaluation of sterility in manufacturing process.
MH011G-500G	Soyabean Casein Digest Medium, Sterile powder γ -irradiated sterile powder recommended for the evaluation of sterility in manufacturing process.
GMH011G-500G	Soyabean Casein Digest Medium, Granulated, Sterile γ -irradiated sterile powder recommended for the evaluation of sterility in manufacturing process.
M1655G-500G M1655G-2.5KG	Soyabean Casein Digest Medium w/ Mannitol, Sterile Powder γ -irradiated sterile powder recommended for the evaluation of sterility in manufacturing process. It can also be used for cultivation of a wide variety of microorganisms.
M1655G-500G M1655G-2.5KG M1655G-5KG	Soyabean Casein Digest Medium w/ BCP, Sterile Powder γ -irradiated sterile powder recommended for the evaluation of sterility in manufacturing process.
M010G-500G M010G-2.5KG M010G-5KG	Alternative Thioglycollate Medium, Sterile Powder γ -irradiated sterile powder recommended for evaluation of sterility in manufacturing process.
MV010G-500G MV010G-2.5KG MV010G-5KG	Alternative Thioglycollate HiVeg Medium, Sterile Powder γ -irradiated sterile powder recommended for evaluation of sterility in manufacturing process.
MU010G-500G MU010G-2.5KG MU010G-5KG	Alternative Thioglycollate Medium, Sterile Powder γ -irradiated sterile powder recommended for evaluation of sterility in manufacturing process in accordance with USP.
M2010G-500G	HiFill™ Test Medium γ -irradiated sterile powder recommended for the evaluation of sterility in manufacturing process for easy detection of contamination by Media Fill Test.
MV2010G-500G	HiFill™ Test HiVeg Medium γ -irradiated sterile powder recommended for the evaluation of sterility in manufacturing process for easy detection of contamination by Media Fill Test.
MCD2010G-500G	HiFill™ Test HiCyn™ Medium γ -irradiated sterile powder recommended for the evaluation of sterility in manufacturing process for easy detection of contamination by Media Fill Test.
RM565G-5KG RM565G-50KG	Lactose monohydrate, Sterile γ -irradiated sterile powder
RM565GT-5KG	Lactose monohydrate, Sterile Powder γ -irradiated Triple Pack
RM570G-5KG RM570G-50KG	D-Mannitol, A. R. sterile γ -irradiated



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For life is precious

USA: 1-800-368-6147



Buffered Peptone Water

Universal Medium for use as diluent and preparation of samples in food industries

- g/l of M614, MV614, MCD614: 20 g/l
- g/l of M1494I, GM1494I (as per ISO), MV1494I, MCD1494I: 20.07 g/l

9 g Na₂HPO₄, 12 H₂O on dehydration is equivalent to 3.57 g Na₂HPO₄ anhydrous

- g/l of Merck 1.07228: 25.5 g/l



Buffered Peptone Water



Technical Data Sheet

GranuCult™

Buffered Peptone Water

acc. ISO 6579, ISO 21528, ISO 22964, FDA-BAM and EP

Ordering number: 1.07228.0500 / 1.07228.5000

For the preliminary non-selective enrichment of bacteria, particularly pathogenic *Enterobacteriaceae* such as *Salmonella* and *Cronobacter*, from food and animal feed, water and other materials.

This culture medium complies with the specifications given by EN ISO 6579, EN ISO/IDF 6579-1, EN ISO 6785 | IDF 93, EN ISO 19250, EN ISO 21528-1, ISO/TS 22964 | IDF/DRM 210, FDA-BAM, APHA and EP.

Mode of Action

The broth is rich in nutrients and produces high resuscitation rates for sublethally injured bacteria and intense growth. The phosphate buffer system prevents bacterial damage caused by changes in the pH of the medium. Peptone including enzymatic digest of casein acts as a source of carbon, nitrogen, vitamins and minerals whilst sodium chloride maintains the osmotic balance.



The life science business of Merck operates as MilliporeSigma in the U.S. and Canada.

Typical Composition

Specified by ISO 6579, ISO/IDF 6579-1, ISO 19250, ISO 21528, ISO 22964		Specified by FDA-BAM M182		Specified by EP 2.6.31, ISO 6785 IDF 93		GranuCult™ Buffered Peptone Water acc. ISO 6579, ISO 21528, ISO 22964, FDA-BAM and EP	
Enzymatic Digest of Casein*	10 g/l	Peptone	10 g/l	Peptone	10 g/l	Peptone (Includes Enzymatic Digest of Casein)	10 g/l
NaCl	5 g/l	NaCl	5 g/l	NaCl	5 g/l	NaCl	5 g/l
Na ₂ HPO ₄ x 12 H ₂ O	9 g/l	Na ₂ HPO ₄ **	3.5 g/l	Na ₂ HPO ₄ x 12 H ₂ O	9 g/l	Na ₂ HPO ₄ x 12 H ₂ O	9 g/l
KH ₂ PO ₄	1.5 g/l	KH ₂ PO ₄	1.5 g/l	KH ₂ PO ₄	1.5 g/l	KH ₂ PO ₄	1.5 g/l
Water	1000 ml/l	Water	1000 ml/l	Water	1000 ml/l	Water	n/a
pH at 25 °C	7.0 ± 0.2	pH at 25 °C	7.0 ± 0.2	pH at 25 °C	7.0 ± 0.2	pH at 25 °C	7.0 ± 0.2

* ISO/IDF 6579-1 specifies: Peptone - for example, enzymatic digest of casein.

** 3.57 g Na₂HPO₄ anhydrous is equivalent to 9 g Na₂HPO₄ x 12 H₂O

Preparation

Dissolve 25.5 g in 1 l of purified water. If desired dispense into smaller vessels and autoclave 15 min at 121 °C.

The prepared medium is clear and yellowish. The pH value at 25 °C is in the range of 6.8-7.2.

Experimental Procedure and Evaluation

Depend on the purpose for which the medium is used.

Incubate the inoculated broth under aerobic conditions, e.g. acc. to EN ISO 6579 36-38 °C for 16-20 h, acc. to EN ISO/IDF 6579-1 at 34-38 °C for 16-20 h.

Transfer material from the resulting culture to a selective enrichment culture medium following the method given by the appropriate standard.

According to EN ISO/IDF 6579-1, it is permissible to store the pre-enriched sample after incubation at +2 to +8 °C for a maximum of 72 h.

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Buffered Peptone Water



Technical Data

Buffered Peptone Water

M1494I

Intended use

Buffered Peptone Water is used as pre-enrichment medium for increasing the recovery of injured *Salmonella* species from foods prior to selective enrichment and isolation. The composition and performance criteria of this medium are as per the applications laid down in ISO 6579-2017, ISO 6887 and ISO 21528-2017.

Composition**

Ingredients	Gms / Litre
Tryptone #	10.000
Sodium chloride	5.000
Disodium hydrogen phosphate.12H ₂ O	9.000
Potassium dihydrogen phosphate	1.500
FinalpH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Equivalent to Enzymatic digest of casein

Directions

Suspend 20.07 grams (equivalent weight of dehydrated medium) in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense as desired and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

Microorganisms that are subjected to environmental stresses may become structurally or metabolically damaged or injured. These microorganisms are unable to replicate in selective environments. Therefore these injured organisms must be resuscitated or permitted to repair the damage by incubation in an appropriate, non-selective environment (1). Edel and Kampelmacher (2) noted that sublethal injury to *Salmonellae* may occur in many food preservation processes. Enriching injured cells in Lactose



Technical Data

Buffered Peptone Water, Granulated

GM1494I

Buffered Peptone Water, granulated is used as pre-enrichment medium for increasing the recovery of injured *Salmonella* species from foods prior to selective enrichment and isolation. The composition and performance criteria of this medium are as per the applications laid down in ISO 6579-2002.

Composition**

Ingredients	Gms / Litre
Enzymatic digest of casein	10.000
Sodium chloride	5.000
Disodium hydrogen phosphate, 12H ₂ O	9.000
Potassium dihydrogen phosphate	1.500
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 20.07 grams (the equivalent weight of dehydrated medium per litre) in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense in tubes or flasks as desired and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

Microorganisms that are subjected to environmental stresses may become structurally or metabolically damaged or injured. These microorganisms are unable to replicate in selective environments. Therefore these injured organisms must be resuscitated



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Granulated Media



Granulated Media

- More than 150 granulated media listed in catalogue
- Combines the high throughput technology of granulation and production of dehydrated culture media
- Has similar quality attributes (Like the powder form) with several added benefits in physical
- Customization of many medium in the granular form is possible
- Safe for use and less dust formation





Granulated Media (HiEncap)

- Premeasured granulated media for 250 ml, 500 ml & 1000 ml
- Just drop the capsule in water and autoclave
- Available for all applications :
Food, Pharma, Clinical, Water, Cosmetics, Dairy, Environment,
Research, Laboratory testing etc.





Granulated Media

Granulated Media - Benefits

- No dust cloud formation with Granular Media
- No weighing needed with Capsular Media
- Used and preferred in many Molecular Biology labs for routine media such as LB, Terrific Broth etc.

Preferred overall due to compliance with GLP, GMP

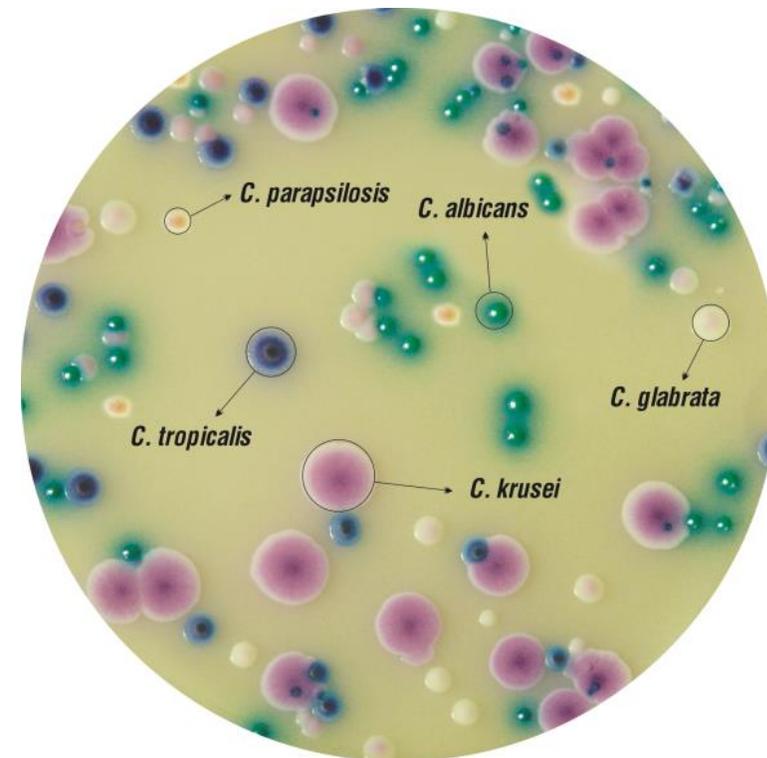


HiCrome™ Chromogenic Media



HiCrome™ - Chromogenic Media

- Largest range of more than 80 such media
- Easy identification & differentiation
- Saves time
- Designed for significant bacterial identification, yeast identification
- Differentiating within a group of organisms
- HiVeg™ HiCrome™ Media also available





HiCrome™ - Chromogenic Coliform Agar (CCA)

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**HiCrome™
Chromogenic Coliform
Agar (CCA Agar) (M1991I)**
in accordance with ISO 9308-1:2014

Use :

Recommended for detection of *Escherichia coli* and coliforms in water samples. The composition and performance criteria of this medium are as per the specifications laid down in ISO 9308-1:2014

Advantages :

- ▶ Simultaneous detection of *Escherichia coli* and total coliforms.
- ▶ Excellent recovery from water with low count
- ▶ Easy interpretation due to colour differentiation
- ▶ Available in dehydrated and ready prepared form

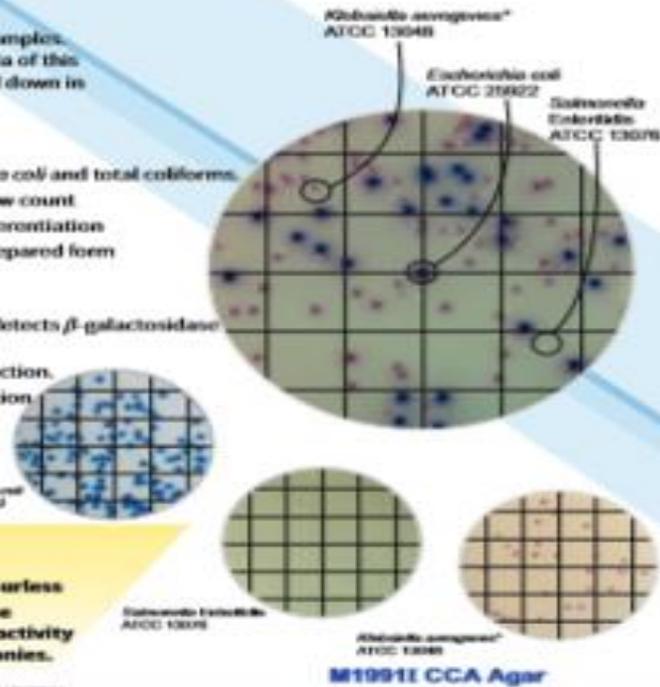
Principle :

- ▶ Mixture of three chromogens, easily detects β -galactosidase and β -glucuronidase enzymes.
- ▶ IPTG is added to enhance colour detection.
- ▶ L-Tryptophan - improved indole reaction [helps in easy detection].
- ▶ Tergitol-7 for selectivity - Gram positive bacteria inhibited

Interpretation :

- ▶ *E.coli* - dark blue to violet
- ▶ Other coliforms - pink to red
- ▶ Other gram negative bacteria - colourless
- ▶ Organisms with weak glucuronidase activity but no beta galactosidase activity produce light blue to turquoise colonies.

* Formerly known as Enterobacter aerogenes



- M1991I suggest for detection of *Escherichia coli* and coliforms in water samples.
- The composition and performance criteria of this medium are as per the specifications laid down in ISO 9308-1:2014.
- It is exactly equivalent to Merck 1.10426.0500

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Thank You