CHROMagar™ Y.enterocolitica

Chromogenic medium for detection and differentiation of pathogenic *Yersinia enterocolitica*.

Instructions For Use
For Research Use Only (RUO).
Not for use in diagnostic procedures.

ENGLISH

Instructions For Use

REFERENCES

Pack Size			Ordering References		Base (B)		Supplement (S)
5000 mL	=	250 Tests of 20 mL	YE492	=	YE492(B) Weight: 206.5 g	+	YE492(S) Weight: 0.5 g

INTENDED USE

CHROMagar™ Y.enterocolitica is a selective chromogenic culture medium intended for use in the qualitative direct detection, differentiation and presumptive identification of pathogenic biotypes of *Yersinia enterocolitica*. The test is performed with rectal swabs and stools, to aid in the diagnosis of *Y. enterocolitica* infections. Results can be interpreted after 36-48 h of aerobic incubation at 30 °C ± 2 °C.

Concomitant cultures are necessary to recover organisms for further microbiological testing or epidemiological typing. A lack of growth or the absence of colonies on CHROMagar™ Y.enterocolitica does not preclude the presence of *Y. enterocolitica*. CHROMagar™ Y.enterocolitica is not intended to diagnose infection nor to guide nor monitor treatment for infections. CHROMagar™ Y.enterocolitica can also be used in the detection of *Y. enterocolitica* in the analyses of food products for human consumption, animal feed and in environmental samples.

COMPOSITION

The product is composed of a powder base (B) and 1 supplement (S).

Product =	Base (B)	+	Supplement (S)
Total g/L	41.3 g/L		0.1 g/L
Composition g/L	Agar 15.0 Peptones 20.0 Salts 5.0 Chromogenic mix 1.3		Selective mix 0.1
Aspect	Powder Form		Powder Form
STORAGE	**15/30 °C**		**2/8 °C**
FINAL MEDIA pH	7.0 +/- 0.2		

Need some Technical Documents?

Available for download on www.CHROMagar.com

- Certificate of Analysis (CoA) --> One per Lot
- Material Safety Data Sheet (MSDS)

PREPARATION **(Calculation for 1L)**

Step 1
Preparation of the base CHROMagar™ Y.enterocolitica (B)

- Disperse slowly 41.3 g of powder base in 1 L of purified water.
- Stir until agar is well thickened.
- Heat and bring to boil (100 °C) while swirling or stirring regularly.

DO NOT HEAT TO MORE THAN 100 °C. DO NOT AUTOCLAVE AT 121 °C.

Warning 1: If using an autoclave, do so without pressure.

Advice 1: For the 100 °C heating step, mixture may also be brought to a boil in a microwave oven: after initial boiling, remove from oven, stir gently, then return to oven for short repeated bursts of heating until complete fusion of the agar grains has taken place (large bubbles replacing foam).

- Cool in a water bath to 45-50 °C +/- 2 °C.

Step 2
Preparation of the Supplement (S)

- Prepare a stock solution of the supplement (S): Add 100 mg to 1 mL of purified water.
- Swirl well until complete dissolution. Filter at 0.45 µm.

Warning 2: This supplement stock solution should be used immediately after preparation, or can be stored at -20 °C and used within 15 days.

Final Media	HELPING CALCULATION
5 L	500 mg 5 mL of sterile water
25 L	2 500 mg into 25 mL of sterile water

Step 3
Mixing of the prepared mix (B) and the prepared supplement (S)

- Add 1 mL of the prepared supplement solution to the prepared base cooled at 45-50 °C +/- 2 °C.
- Swirl gently to homogenize.
- Pour into sterile Petri dishes.
- Let it solidify and dry.

Final Media	HELPING CALCULATION
5 L	Add 5 mL of supplement to the base
25 L	Add 25 mL of supplement to the base

Storage

- Store in the dark before use.
- Prepared media plates can be kept for one day at room temperature.
- Plates can be stored for up to one month under refrigeration (2/8 °C) if properly prepared and protected from light and dehydration.

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SPECIMEN COLLECTION AND HANDLING

CHROMagar™ Y.enterocolitica can be used with the following specimens: Rectal swabs and stools.

This medium can be also used in food industry with the following specimens: recreati onal water, livestock, meat, processed and raw food.

Use of transport devices approved for collection of such specimens is recommended.

MATERIAL REQUIRED BUT NOT PROVIDED

Standard microbiological laboratory material for culture media preparation, control, streaking, incubation and waste disposal.

INOCULATION

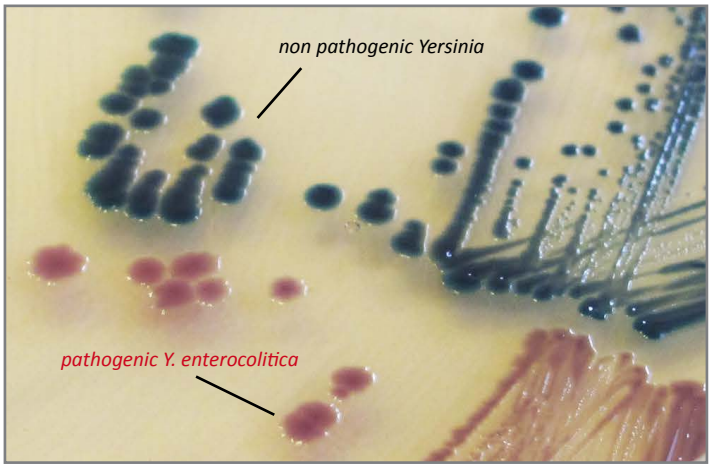
Related samples can be processed by direct streaking on the plate, as well as prior appropriate enrichment step.

- If the agar plate has been refrigerated, allow to warm to room temperature before inoculation.
- Streak sample onto plate.
- Incubate in aerobic conditions at 30 °C for 36 hours.

INTERPRETATION

Microorganism	Typical colony appearance
Pathogenic *Y. enterocolitica*	→ mauve
Yersinia spp	→ metallic blue or inhibited
Other *Enterobacteriacae*	→ metallic blue or inhibited
Gram (+) bacteria	→ inhibited

Typical colony appearance



The pictures shown are not contractual.

PERFORMANCE

	Analytical data *	Clinical data**	
		CHROMagar™ Y.enterocolitica	Reference medium (CIN agar)
Sensitivity	99.4 %	100 %	100 %
Specificity	100 %	99 %	90.4 %

* Data obtained after a 48 h incubation at 32 °C in aerobic conditions in the study "Evaluation of chromogenic medium for selective isolation of *Yersinia*". Thuan *et al.*, 2016. *Food Hyg. Saf. Sci.*

** Data obtained after a 48 h incubation at 28 °C in aerobic conditions with 1494 stools samples in the study "CHROMagar™ Yersinia, a new chromogenic agar for screening of potentially pathogenic *Yersinia enterocolitica* isolates in stools". Renaud *et al.*, 2013. *J. Clin. Microbiol.*

LIMITATIONS AND COMPLEMENTARY TESTS

- Some *Y. enterocolitica* could have a poor or no growth on the media. Some rare strains of non-pathogenic *Yersinia* could appear as mauve colonies *(Y. bercovieri, Y. mollareti, Y. kristensenii, Y. rohdei etc).*
- Final confirmation as pathogenic *Y. enterocolitica* must be done by appropriate methods.
- Final identification may require additional testing such as bio-chemical tests or mass spectrometry (e.g MALDI-TOF) which can be done directly from the suspicious colonies observed on the medium.

QUALITY CONTROL

Please perform Quality Control according to the use of the medium and the local QC regulations and norms.
Good preparation of the medium can be tested, isolating the following ATCC strains:

Microorganism	Typical colony appearance
Y. enterocolitica pYV+ ATCC® 23715	→ mauve
Y. enterocolitica pYV- biotype 1A	→ metallic blue
E. coli ATCC® 25922	→ inhibited
E. faecalis ATCC® 29212	→ inhibited
P. aeruginosa ATCC® 9027	→ inhibited
C. freundii ATCC® 8090	→ partially inhibited

WARNINGS AND PRECAUTIONS

- For Research Use Only (RUO). Not for use in diagnostic procedures.
- This laboratory product should be used only by trained personnel (healthcare professional, etc). Wear appropriate protective clothing, gloves and eye/face protection and handle appropriately with procedures and good laboratory practices.
- Use of the medium may be difficult for people who have problems recognising colours.
- For a good microbial detection, collection and transport of specimen should be well handled and adapted to the particular specimen according to good laboratory practices.
- Culture media should not be used as manufacturing material or components.
- Do not ingest or inhale the product.
- Do not use the product after the expiry date.
- Do not use the product if it show any evidence of contamination or any sign of deterioration.
- Do not use the product if the packaging is damaged.
- Any change or modification in the procedure may affect the results.
- Any change or modification of the required storage temperature may affect the performance of the product.
- Unappropriate storage may affect the shelf life of the product.
- Recap the bottles/vials tightly after each preparation and keep them in a low humidity environment, protected from moisture and light.
- Reading and interpretation should be performed using isolated colonies.
- Some precipitate may be observed in the agar but these do not affect the performance of the product.

• Interpretation of the test results should be made taking into consideration colonial and microscopic morphology and if necessary, the results of any other tests performed.
• Laboratory, chemical or biohazardous wastes must be handled and discarded in accordance with all local and national regulations.
• For hazard and precaution recommendations related to some chemical components in this medium, please refer to the pictogram(s) mentioned on the labels. The Safety Data Sheet (SDS) is available on www.chromagar.com

DISPOSAL OF WASTE

After use, all plates and any other contaminated materials must be sterilized or disposed of by appropriate internal procedures and in accordance with local legislations. Plates can be destroyed by autoclaving at 121 °C for at least 20 minutes.

LITERATURE REFERENCES

Please refer to our website page «Publications» for scientific publications about this particular product. Web link:
www.chromagar.com/product/chromagar-y-enterocolitica/

IFU/LABEL INDEX

REF Catalogue reference

Consult instructions for use

Quantity of powder sufficient for X liters of media

Expiry date

Required storage temperature

Store away from humidity

Protect from light

Manufacturer

NT-EXT-073 USA V4.1 / 14-May-24

CHROMagar™
The Chromogenic Media Pioneer

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