HardyCHROM™ Salmonella

Cat. no. G309	HardyCHROM™ Salmonella, 15x100mm Plate, 18ml	10 plates/bag
Cat. no. J37	HardyCHROM™ Salmonella / XLT-4 Agar, 15x100mm Biplate, 10ml/10ml	10 plates/bag

INTENDED USE

HardyCHROM™ Salmonella is a chromogenic medium recommended for the selective isolation and differentiation of *Salmonella* spp. from other members of the family Enterobacteriaceae based on colony color.

SUMMARY

HardyCHROM™ Salmonella facilitates the isolation and differentiation of *Salmonella* spp. from other members of the family Enterobacteriaceae. Peptones in the medium supply the necessary nutrients. Selective agents inhibit the growth of gram-positive organisms. Artificial substrates (chromogens) are broken down by specific microbial enzymes which release insoluble colored compounds. *Salmonella* species break down only one of the chromogens and will produce deep pink to magenta colored colonies. Bacteria other than *Salmonella* spp. may break down the other chromogenic substrates and produce blue colonies. If none of the substrates are utilized, natural or white colored colonies will be present.

FORMULA

Ingredients per liter of deionized water:*

Peptones	10.0gm
Yeast Extract	3.0gm
Sodium Deoxycholate	1.0gm
Chromogenic Mixture	0.5gm
Selective Agents	0.02gm
Agar	15.0gm

Final pH 7.2 +/- 0.2 at 25 degrees C.

* Adjusted and/or supplemented as required to meet performance criteria.

STORAGE AND SHELF LIFE

Storage: Upon receipt store at 2-8 degrees C. away from direct light. Media should not be used if there are any signs of deterioration (shrinking, cracking, or discoloration), contamination, or if the expiration date has passed. Product is light and temperature sensitive; protect from light, excessive heat, moisture, and freezing.

The expiration date applies to the product in its intact packaging when stored as directed.

This product has the following shelf life from the date of manufacture:

60 Days:	G309	HardyCHROM™ Salmonella
	J37	HardyCHROM™ Salmonella / XLT-4 Agar

Refer to the keyword "Storage", in the Hardy Diagnostics' software program HUGO™, for more information on storing culture media.

PRECAUTIONS

This product is for *in vitro* diagnostic use only and is to be used only by adequately trained and qualified laboratory personnel. Observe approved biohazard precautions and aseptic techniques. All laboratory specimens should be considered infectious and handled according to "standard precautions". The "Guideline for Isolation Precautions" is available from the Centers for Disease Control and Prevention at www.cdc.gov/ncidod/dhqp/gl_isolation.html.

For additional information regarding specific precautions for the prevention of the transmission of all infectious agents from laboratory instruments and materials, and for recommendations for the management of exposure to infectious disease, refer to CLSI document M-29: *Protection of Laboratory Workers from Occupationally Acquired Infections: Approved Guideline.*

Sterilize all biohazard waste before disposal.

Refer to the keyword "Precautions", in the Hardy Diagnostics' software program HUGO™, for more information regarding general precautions when using culture media.

Refer to the keyword "MSDS", in the Hardy Diagnostics' software program HUGO™, for more information on handling potentially hazardous material.

PROCEDURE

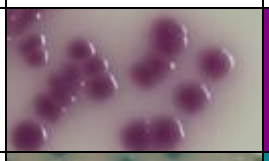
Specimen Collection: Consult listed references for information on specimen collection. [2-4,7] Infectious material should be submitted directly to the laboratory without delay and protected from excessive heat and cold. If there is to be a delay in processing, the specimen should be inoculated onto an appropriate transport media and refrigerated until inoculation.

Consult the listed references for information regarding the processing of specimens. [2-4,7]

Method of Use: Allow the plates to warm to room temperature. The agar surface should be dry prior to inoculating. Inoculate and streak the specimen as soon as possible after collection. If the specimen to be cultured is on a swab, roll the swab over a small area of the agar surface. Streak for isolation with a sterile loop. Incubate plates in an inverted position, protected from the light, aerobically at 35-37 degrees C. for 24 hours. Examine plates for colonies showing typical morphology and color.

INTERPRETATION OF RESULTS

Salmonella spp., including *S. typhi* and *S. paratyphi* A, produce magenta colored colonies. Other members of the Enterobacteriaceae (if present) produce blue, blue-green, white, or colorless colonies. Gram-positive bacteria and non-glucose fermenting bacteria will be inhibited.

Organism	Description	Photo	Color
Salmonella spp.	pink to magenta colonies		
E. coli	blue colonies		

LIMITATIONS

It is necessary that biochemical and/or serological tests be performed on colonies from pure culture for complete identification.

Color-blind individuals may encounter difficulty in distinguishing the color differences on HardyCHROM™ Salmonella.

Refer to the keyword "Limitations", in the Hardy Diagnostics' software program HUGO™, for more information regarding general limitations on culture media.

MATERIALS REQUIRED BUT NOT PROVIDED

Standard microbiological supplies and equipment such as loops, swabs, applicator sticks, other culture media, incinerators, and incubators, etc., as well as serological and biochemical reagents, are not provided.

QUALITY CONTROL

The following organisms are routinely used for testing at Hardy Diagnostics:

Test Organisms	Inoculation Method*	Incubation			Results
		Time	Temperature	Atmosphere	
Salmonella enterica ATCC® 14028	A	24hr	35°C	Aerobic	Growth; pink to magenta colonies
Escherichia coli ATCC® 25922	B	24hr	35°C	Aerobic	Growth; blue colonies
Proteus mirabilis ATCC® 12453	A	24hr	35°C	Aerobic	Partial to complete inhibited; colorless colonies
Pseudomonas aeruginosa ATCC® 27853	B	24hr	35°C	Aerobic	Inhibited

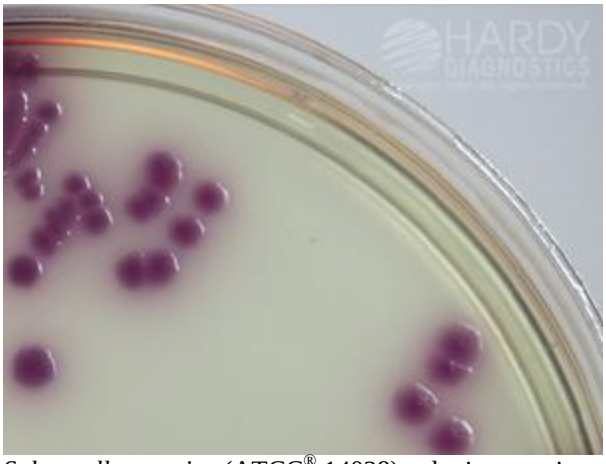
* Refer to the keyword "Inoculation Procedures", in the Hardy Diagnostics' software program HUGO™, for a description of inoculation procedures.

USER QUALITY CONTROL

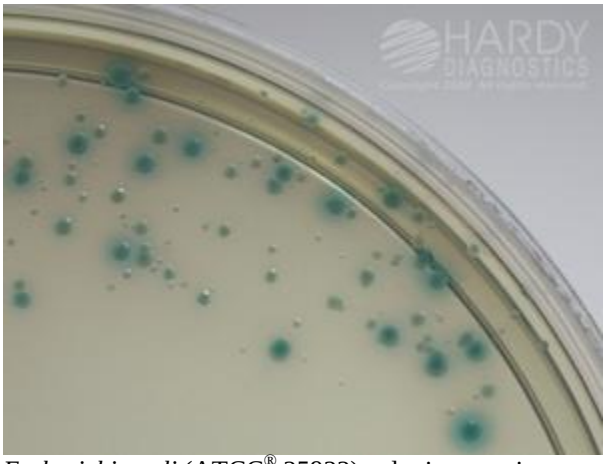
Check for signs of contamination and deterioration. Users of commercially prepared media may be required to perform quality control testing with at least one known organism to demonstrate growth or a positive reaction; and at least one organism to demonstrate inhibition or a negative reaction (where applicable). Refer to the following keywords, in the Hardy Diagnostics' software program HUGO™, for more information on QC: "Introduction to QC", "QC of Finished Product", and "The CLSI (NCCLS) Standard and Recommendations for User QC of Media". Also see listed references for more information. [1-7]

PHYSICAL APPEARANCE

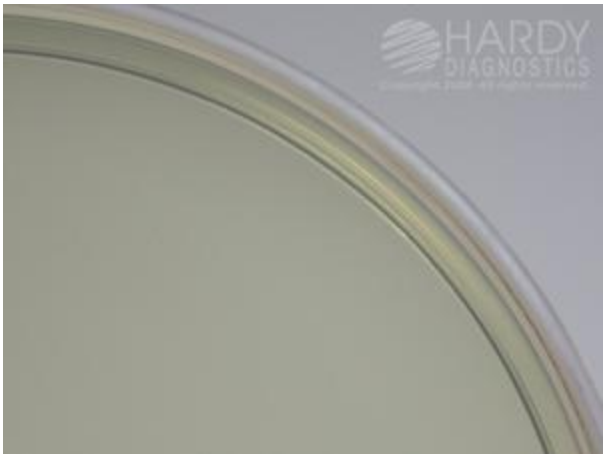
HardyCHROM™ Salmonella should appear translucent light beige with a fine white precipitate dispersed evenly throughout.



Salmonella enterica (ATCC® 14028) colonies growing on HardyCHROM™ Salmonella (Cat. no. G309). Incubated aerobically for 24 hours at 35 deg. C.



Escherichia coli (ATCC® 25922) colonies growing on HardyCHROM™ Salmonella (Cat. no. G309). Incubated aerobically for 24 hours at 35 deg. C.



Uninoculated plate of HardyCHROM™ Salmonella (Cat. no. G309).

REFERENCES

1. Wallace, J.S., and K. Jones. 1996. The Use of Selective and Differential Agars in the Isolation of *Escherichia coli* O157 from Dairy Herds. *Jour. Appl. Bacteriol.*; 81:663-668.

2. Murray, P.R., et al. 2011. *Manual of Clinical Microbiology*, 10th ed. American Society for Microbiology, Washington, D.C.

3. Forbes, B.A., et al. 2007. *Bailey and Scott's Diagnostic Microbiology*, 12th ed. C.V. Mosby Company, St. Louis, MO.

4. Isenberg, H.D. *Clinical Microbiology Procedures Handbook*, Vol. I, II & III. American Society for Microbiology, Washington, D.C.

5. Koneman, E.W., et al. 2006. *Color Atlas and Textbook of Diagnostic Microbiology*, 6th ed. J.B. Lippincott Company, Philadelphia, PA.

6. *Standard Methods for the Examination of Dairy Products*, 16th ed. 1992. APHA, Washington, D.C.

7. *Compendium of Methods for the Microbiological Examination of Foods*, 3rd ed. 1992. APHA, Washington, D.C.

8. U.S. Food and Drug Administration. *Bacteriological Analytical Manual*, 8th ed. AOAC, Arlington, VA. http://www.fda.gov/Food/FoodScienceResearch/LaboratoryMethods/ucm2006949.htm

072914hh

HARDY DIAGNOSTICS
1430 West McCoy Lane, Santa Maria, CA 93455, USA
Phone: (805) 346-2766 ext. 5658
Fax: (805) 346-2760
Website: www.HardyDiagnostics.com
Email: TechService@HardyDiagnostics.com

Distribution Centers:
California · Washington · Utah · Arizona · Texas · Ohio · Florida · New York · North Carolina

The Hardy Diagnostics manufacturing facility and quality management system is certified to ISO 13485.

KEY diagnostics
T: 02 8212 4074 F: 02 9423 6992
www.keydiagnostics.com.au
E: infoxkeydiagnostics.com.au
PO Box 1038 Gymea NSW 2227