

Chocolate Contact Agar +LTH - ICR+

Article Number 835

Intended Use

Chocolate Contact Agar +LTH - ICR+ is a universal blood containing culture medium for enrichment and isolation of particularly fastidious bacteria as well as yeasts and moulds. This medium is suitable for detection of aerobic as well as anaerobic microorganisms.

Chocolate Contact Agar +LTH - ICR+ is used for environmental monitoring of surfaces as well as personnel in the presence of residues of disinfectants. **ICR**-media are developed for the use in critical clean rooms and isolators. The features of these media are listed below:

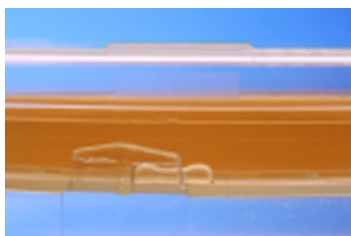
Features of ICR-Media

Hygiene monitoring in Isolators and Clean Rooms:

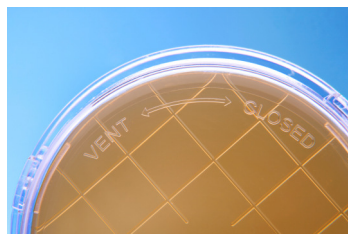
- storage at 15-25°C
- triple packed (a set of ten plates each)
- gamma-irradiated (9-20 kGy)
- transparent inner H₂O₂-impermeable bag
- long shelf life
- long incubation times

The new **ICRplus** plates show the following additional features:

- **ICRplus**: After taking the sample the lid can be fixed for a safe transport.



- **ICRplus**: Two lid positions available for different incubation conditions.



„Closed“-position is suitable for safe transport as well as aerobic incubation conditions especially at long incubation times; „Vent“-position is suitable for all incubation atmospheres especially at microaerophilic or anaerobic conditions.

- **ICRplus**: Each plate is supplied with a data matrix barcode for identification of each individual plate.



Typical Composition per litre

Peptone	13 g
Yeast extract	5 g
Meat extract	2 g
Sheep blood	50 ml
Glucose (Dextrose)	2 g
Sodium chloride	5 g
Dipotassium hydrogen phosphate	2.5 g
Lecithin	0.7 g
Tween 80	5 ml
Histidine	0.5 g
Growth supplements	
Agar	15 g
pH 7.3 ± 0.2	

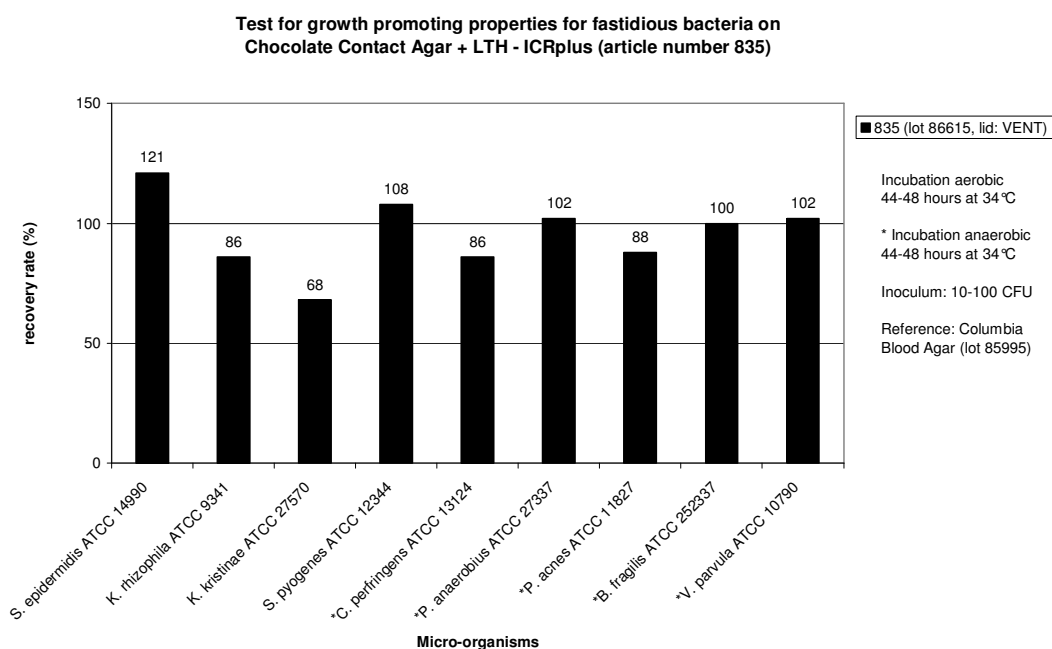
The medium is intransparent and chocolate brown coloured.

Description

This medium is characterized by a rich nutritive basis. Dextrose is the source of carbon and energy. In addition the growth supplements haemin and NAD are released from the sheep blood erythrocytes during heating. These components as well as further added growth supplements allow good growth conditions for

fastidious aerobic and anaerobic micro-organisms. The following graph will show the recovery of some fastidious aerobic and anaerobic test strains compared to Columbia Blood Agar.

Note: For incubation at anaerobic atmospheres the lid is fixed in "VENT"-position.



For inactivation of residuals of disinfectants the TSA medium is supplied with lecithin, Tween 80 and histidine. According to Sutton et al. quaternary ammonium compounds as well as parahydroxybenzoate are inactivated by lecithin. Tween 80 will neutralize phenols (see Russel et al.). According to Wallhäuser histidine will inactivate formaldehyde.

In addition to the above mentioned neutralizers the medium is supplemented with agents für inactivation of H₂O₂. If the plates are used for active air sampling in isolators up to 80 ppm may accumulate on one plate.

Culture Conditions

The culture conditions may vary depending on the application of the medium. For the use in hygiene monitoring it is recommended to incubate one plate for the detection of yeasts and moulds at 20 to 25°C for 5 to 7 days and a second plate for the detection of bacteria at 30 to 35°C for 2 to 3 days (see "Guidance for Industry"). The plates should be evaluated at different times during this period.

For detection of anaerobic or microaerophilic organisms it is necessary to achieve a good gas exchange between the incubation atmosphere and the plate. Therefore the incubation has to be performed with the lid fixed in "VENT"-position.

Quality Control

Test strain	Culture conditions	Growth characteristics
<i>Staphylococcus aureus</i> ATCC 6538	1d 34 ± 1 °C	medium sized, slightly yellowish colonies, recovery > 50%
<i>Escherichia coli</i> ATCC 8739	1d 34 ± 1 °C	medium sized, grey colonies, recovery > 50%
<i>Pseudomonas aeruginosa</i> ATCC 9027	1d 34 ± 1 °C	medium sized, whitish colonies, recovery > 50%
<i>Bacillus subtilis</i> ATCC 6633	1d 34 ± 1 °C	large, flat dry and whitish colonies recovery > 50%
<i>Candida albicans</i> ATCC 10231	2d 22,5 ± 2,5 °C	small, nodular, white colonies; recovery > 50%
<i>Clostridium sporogenes</i> ATCC 11437	1d 34 ± 1 °C	medium sized, whitish colonies with frayed out edges; recovery > 50%
<i>Clostridium tertium</i> ATCC 14573	2d 34 ± 1 °C	medium sized, whitish colonies, recovery > 50%

10 – 100 CFU inoculated

Further Identification

In case of growth it is recommended to identify the colonies using suitable methods.

References

Guidance for Industry: Sterile Drug Products Produced by Aseptic Processing - Current Good Manufacturing Practice (September 2004): Pharmaceutical CGMPs.

Russel, A. D., Ahonkhai, I., Rogers, D. T. (1979): Microbiological Applications of the Inactivation of Antibiotics and Other Antimicrobial Agents. J. Appl. Bacteriology **46** (2): 207–245

Sutton, S. V. W., Proud, D. W., Rachui, S., Brannan, D. K. (2002): Validation of microbial recovery from disinfectants. PDA J. Pharm. Sci. Technol. **56**; No. 5: 255-266.

United States Pharmacopoeia 31 (2008): <1116> Microbial evaluation of clean rooms and other controlled environments.

Wallhäuser, K. H. (1995): Praxis der Sterilisation. Georg Thieme Verlag Stuttgart New York.