67416 Acinetobacter Millichrome™ plus Agar Base

For detection of *Acinetobacter* and MDR *Acinetobacter* sp.

Composition:

Ingredients	Grams/Litre
Peptone and yeast extract	12.0
Salts	4.0
Chromogenic mix*	1.8
Agar	15.0

Final pH 7.0 ± 0.2 at 25°C

* confidential mix with chromogenic substrates

Store prepared media below 8°C, protected from direct light (max. 1 month). Store dehydrated powder, in a dry place, in tightly sealed containers at 2-25°C.

Preparation:

Step 1:

- Disperse slowly 32.8 g of powder base in 1 L of purified water.
- Add 4.0 mL of the liquid Acinetobacter Millichrome™ plus Supplement (Cat. No. 67652) into slurry.
- 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: If using an autoclave, do so without pressure.

Advice: in case of product samples containing a high load of Pseudomonas and/or Aeromonas, Cefsulodin can be added at 5 mg/L.

- Cool in a water bath to 45-50 °C, swirling or stirring gently.

Step 2 (optional, If screening is focused on MDR Acinetobacter, add the MDR Acinetobacter Millichrome™ plus Supplement (Cat. No. 67425) as following):

- Rehydrate one vial with 5 mL of purified water.
- Add 5 mL of this solution to 1 L of the melted mix (step 1) at 45-50 °C.
- Stir well for homogenization
- Step 3:
- Pour into sterile Petri dishes.
- Let it solidify and dry.

Warning: Slight variation of the media coloration after solidification can be observed, from yellowish to light orange without any impact on the media performance.

- Add 5 mL of this solution to the melted mix (step 1) at 45-50 °C.
- Stir well for homogenization.

Step 3:

- Pour into sterile Petri dishes.
- Let it solidify and dry.

Warning: Slight variation of the media coloration after solidification can be observed, from yellowish to light orange without any impact on the media performance.

- Add 5 mL of this solution to the melted mix (step 1) at 45-50 °C.
- Stir well for homogenization.

Principle and Interpretation:
Detection of *A. baumannii* from traditional culture media might be a difficult and tedious task due to the abundance of background flora found in collected specimens, especially when using media based on differentiation by the lactose/non-lactose fermentation ability. To overcome these difficulties, this medium was designed as a highly selective medium, allowing the growth of *Acinetobacter* in conspicuously red colonies, after overnight incubation. Acinetobacter Millichrome™ plus Agar Base is a selective and differential chromogenic culture medium, intended for use in the qualitative direct detection of colonization with Acinetobacter to aid in the prevention and control of Acinetobacter, drug-susceptible or multi-drug resistant (MDR), in healthcare settings and pharma production. The test is performed with swabs, stools and urine samples or pharma samples. It can also be used in hygiene monitoring in the clinical and pharma environment with surface sampling.
This medium can be supplemented with MDR Acinetobacter Millichrome™ plus Supplement to enhance MDR specificity allowing the growth of carbapenem-resistant strains.
Peptone and yeast extract provide nitrogenous nutrients for growth and other essential growth factors. Salt is needed for the osmotic balance, as a buffering and selective system and to provide essential ions. Chromogenic mix contains chromogenic substrates for the color differentiation based on the ability to cleave the substrate by characteristic enzymes. Agar is the solidifying agent.

Limitation and further testing

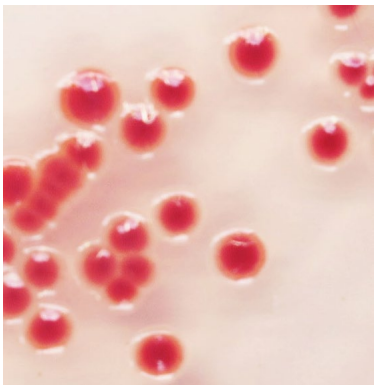
- Definite Acinetobacter may require additional confirmatory testing such as biochemical or immunological test: Latex agglutination confirmation test can be performed directly from the plates on suspected colonies.
- Some other non-fermenting gram-negative strains such as *Pseudomonas* sp. or *Stenotrophomonas* sp. can display similar coloration appearance as *Acinetobacter*. These bacteria, well-known to be frequently Multi-Drug Resistant, can grow even in presence of the MDR Selective suppl.
- *Pseudomonas* strains can be easily differentiated performing an oxidase test.
- *Stenotrophomonas* strains can be easily distinguished as forming tiny colonies at 18-24 h.
- Some Enterobacteriaceae strains may grow as blue to metallic blue colonies.

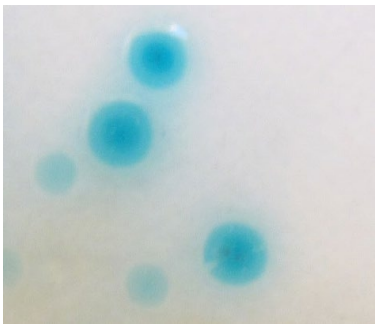
Quality control:
Cultural characteristics after 18-24 h at 35-37°C under aerobic conditions.

Organisms (ATCC/WDCM)	Growth without MDR Supplement	Growth with MDR Supplement	Colony color
Acinetobacter baumanii (19606/-)	+++	-	red
Acinetobacter baumanii (BAA1605/-)	+++	+++	red
Enterococcus faecalis (29212/00087)	-	-	-

References:

1. J. Kristie Johnson et al., Detection of Acinetobacter baumannii in Surveillance Cultures, University of Maryland Poster ASM 2010 (2011)
2. K. S. Yauri Condor, et al., Multidrug resistant bacteria on air, inanimate surface and medical equipment in an Intensive Care Unit in Lima, Perú, ASM Microbe Poster 2104 (2022)
3. J. Moran-Gilad, A. Adler, D. Schwartz, S.Navon-Venezia, Y.Carmeli, Laboratory evaluation of different agar media for isolation of carbapenem-resistant Acinetobacter spp., Eur J Clin Microbiol Infect Dis (2014)


Acinetobacter


other Gram negative organism

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.