chromID™ Sakazakii

Make sure it's safe!

Chromogenic medium for the selective isolation and presumptive identification of *E. sakazakii* (Cronobacter spp) in infant food products and production environment samples.
chromID™ Sakazakii agar (ESPM)

chromID Sakazakii innovation

Two chromogenic substrates to allow high level sensitivity within 24 hours of incubation

Innovative and highly-sensitive formula:

- Two chromogenic substrates to reveal the two *E. sakazakii*-specific enzyme activities: \( \alpha \)-D-glucopyranosidase and \( \beta \)-D-cellobiosidase which allow detection of weak \( \alpha \)-D glucopyranosidase strains
- Antibiotics to inhibit the growth of most Gram-positive strains and yeasts as well as some Gram-negative species
- chromID™ Sakazakii Agar is based on the formula of the R&F *Enterobacter sakazakii* chromogenic plating medium (ESPM) described by L. Restaino et al (R&F Laboratories).

Ease of reading and flexibility of use:

- Evaluated according a short detection protocol: single enrichment with the CEB (Cronobacter Enrichment Broth) prepared by addition of a CEB supplement in Buffered Peptone Water
- Also evaluated after an enrichment mLST + vancomycin (ISO/TS 22964:2006) or EE broth (FDA/CFSAN:2002)
- Possible incubation at 37°C as well as at 41.5°C
- Typical colonies (blue-grey to blue-black) are obtained after 24 hours of incubation
- Characteristic appearance of the colonies is maintained for up to 48 hours of incubation. It is therefore possible to perform a single reading at 48 hours.

chromID Sakazakii performances

Evaluated according to a short detection protocol:

- This new reliable shortened two-day solution offers major benefits to both PIF manufacturers and suppliers of PIF ingredients:
  - Simplified protocol: single enrichment for PIF, raw materials, baby food and environmental samples
  - Improved performances and greater recovery: 100% of the strains recovered from artificially contaminated PIF versus 90% for ISO and CSB methods (n=10)
  - Rapid product release (30 to 40 hrs versus 72 hrs for ISO): decrease of storage costs and penalties
  - Simplified work flow
  - Improved sampling plan (composite samples) allowing better risk management.

Evaluated according ISO/TS 22964:2006 method:

- Results obtained during a field trial showed that chromID Sakazakii medium is very useful for the isolation of *E. sakazakii* (Cronobacter spp) strains from food and environmental samples. Its high sensitivity and specificity enable the accurate recovery of *E. sakazakii* after 24 hours incubation at 41.5°C. Growth of characteristic colonies is easy-to-read and its high selectivity facilitates the isolation of *E. sakazakii* strains and its final identification. Unlike the two other chromogenic media investigated in this study, chromID Sakazakii contains two chromogenic substrates which can detect all *E. sakazakii* strains whereas the two other media detect only *E. sakazakii* strain with \( \alpha \)-glucosidase activity. This important advantage should increase the sensitivity of chromID Sakazakii medium.

Cronobacter Genus

(*Enterobacter sakazakii*)

A neonatal pathogen associated with the powdered infant formula (PIF)

The organism has been isolated from various food products as well as from environmental sources, such as water and soil (Fanning & Forsythe, 2007). It has been found in foods, including milk powder, chocolate, cereal, spices and pasta. *Enterobacter sakazakii* is also an occasional contaminant of dehydrated foods.

In neonates it can cause a rare, but life threatening form of neonatal meningitis (10-55 % fatality), bacteremia, necrotizing enterocolitis (NEC) (40-80 % fatality) and necrotizing meningo-encephalitis (Bowen & Braden, 2006).

*Enterobacter sakazakii* is a member of the *Enterobacteriaceae* family and was designated as a new bacterial species by Farmer et al., in 1980. Recently, the taxonomy of *E. sakazakii* was clarified and a reclassification was proposed which groups 6 species into a new genus, Cronobacter (submitted for publication in IJSEM).

1- Poster UCD Janvier 2009 – C. Iversen and AL – First International Cronobacter Conference in Dublin–
   - New Simplified Solution for Rapid Detection of Cronobacter spp in Powdered Infant Formula, Ingredients & Environmental Samples
3- Poster IAFP 2008: "Evaluation of a new chromogenic medium, chromID™ Sakazakii, for detection of *Enterobacter sakazakii* in powdered infant formula and environmental samples"
5- Journal of Clinical Microbiology, June 2007, p. 2048–2050 Vol. 45, No.6 « Comparison of the Phenotyping Methods ID 32E and VITEK 2 Compact GN with 60 rRNA Gene Sequencing for the Identification of *Enterobacter sakazakii* » by Nadège Fanjat, Alexandre Leclercq, Han Joosten, and Denis Robichon

bioMérieux offers an innovative and highly sensitive chromogenic media for *E. sakazakii* detection according to a new short protocol

<table>
<thead>
<tr>
<th>bioMérieux Industry</th>
<th>595 Anglum Road</th>
<th>Hazelwood, MO 63042</th>
<th>Tel: (800) 634 7656</th>
<th>Fax: (314) 731 8678</th>
<th><a href="http://www.biomerieux-usa.com">www.biomerieux-usa.com</a></th>
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<tr>
<td>chromID Sakazakii</td>
<td>20 plates</td>
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<td></td>
<td>bags – 3 x 3 L</td>
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<td>6 x 225 ml</td>
<td>Ref. 42043</td>
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Identification:

- ID 32 E
- 25 galleries
- Ref. 32400
- VITEK® 2 GN
- 20 cards
- Ref. 21334

*Customized production. Contact your local representative

E. sakazakii - 24hrs

E. sakazakii and *P. mirabilis* - 24hrs

α-D-glucopyranosidase and \( \alpha \)-D glucopyranosidase strains whereas the two other media detect only *E. sakazakii* strain with \( \alpha \)-glucosidase activity. This important advantage should increase the sensitivity of chromID Sakazakii medium.