

Cronobacter selective broth

Recommended for screening *Cronobacter* (formerly *Enterobacter sakazakii*) from food.

REF: BS.1/CSB01.100.0100	100 Gram	REF: BS.1/CSB01.250.0250	250 Gram
REF: BS.1/CSB01.500.0500	500 Gram		

CLINICAL SIGNIFICANCE

Cronobacter (formerly *Enterobacter sakazakii*) are gram-negative rod-shaped *Enterobacteriaceae* that have been implicated in outbreaks of disease causing sepsis, meningitis and necrotising enterocolitis (1). *Cronobacter* species have also been isolated from powdered infant formula as high tolerance to desiccation provides a competitive advantage in dry environments increasing the risk of contamination (2). Cronobacter Screening Broth was specifically designed by Iversen et al (3). Cronobacter Selective Broth is recommended by ISO Committee for the isolation of Cronobacter species from food samples (4).

METHOD PRINCIPLE

Peptone and beef extract provide carbonaceous, nitrogenous and growth nutrients. Sodium chloride maintains osmotic equilibrium. Sucrose is the fermentable carbohydrate and bromocresol purple is the indicator. Sucrose is fermented by Cronobacter. Consequently the broth turns yellow after incubation.

MEDIA COMPOSITION

Item	Formula per liter of medium
- Peptone	10.00 gm.
- Beef extract	3.000 gm.
- Sucrose	10.00 gm.
- Sodium chloride	5.000 gm.
- Bromocresol purple	0.040 gm.

PRECAUTIONS AND WARNINGS

Media to be handled by entitled and professionally educated person. Do not ingest or inhale.

Good Laboratories practices using appropriate precautions should be followed in:

- Wearing personnel protective equipment (overall, gloves, glasses.).
- Do not pipette by mouth.
- In case of contact with eyes or skin; rinse immediately with plenty of soap and water. In case of severe injuries; seek medical advice immediately.
- Respect country requirement for waste disposal.

S56: dispose of this material and its container at hazardous or special waste collection point.

S57: use appropriate container to avoid environmental Contamination.

S61: avoid release in environment.

For further information, refer to the serum dextrose agar material safety data sheet.

STORAGE AND STABILITY

BioScien Cronobacter selective broth dehydrated media are stable until expiration date stated on label when properly stored 10-30°C. The prepared medium should be stored at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to avoid lump development due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in a dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Final pH 7.4 ± 0.2 at 25°C

MEDIA PREPARATION

1. Suspend 28.04 grams in 1000 ml purified / distilled water.
2. Adjust pH to 7.4 ± 0.2 at 25°C
3. Heat if necessary to dissolve the medium completely.
4. Sterilize by autoclaving at 15 lbs. pressure (121°C) for 15 minutes.
5. Cool to 45-50°C. Aseptically add the contents of 1 vial of Van10 Selective Supplement.
6. Mix well and dispense 10ml into sterile test tubes.

Deterioration

The color of **BioScien** Cronobacter selective broth is Cream to yellow homogeneous free flowing powder. If there are any physical changes, discard the medium.

The hydrated medium Purple coloured clear solution forms in tubes, media should not be used if there are any signs of deterioration (shrinking, cracking, or discoloration), and contaminations.

SPECIMEN COLLECTION AND PRESERVATION

Clinical samples

Food samples

EQUIPMENT REQUIRED NOT PROVIDED

- Sterile cups
- Sterile test tubes
- Sterile loops
- Incubator

PERFORMANCE CHARACTERISTICS

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature

Fits your perfection

Test Organisms	Growth	Color of medium
<i>Cronobacter sakazakii</i> ATCC 29544	luxuriant	Yellow
<i>Cronobacter muytjensii</i> ATCC 51329	luxuriant	Yellow
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 25923	None-poor	Purple
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 6538	None-poor	Purple

QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control values are found outside the defined range, check the system performance. If control still out of range please contact **BioScien** technical support.

REFERENCES

1. Mullane et al. 2007. Minerva Pediatr. 59.137-148.
2. Lai.2001.Medicine.80.113-122.
3. Iversen et al.2008.Appl.Environ.Microbiol.74, 2550-2552.
4. International Organization for Standardization. Microbiology of the food chain- Horizontal method for the detection of *Cronobacter* spp. Draft ISO/ TS 22964, 2017 (E).
5. Salfinger Y., and Tortorello M.L. , 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
6. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
7. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

SYMBOLS IN PRODUCT LABELLING		
IVD	For in-vitro diagnostic use	 Number of <n> test in the pack
LOT	Batch Code/Lot number	 Caution
REF	Catalogue Number	 Do not use if package is damaged
	Temperature Limitation	 Consult Instruction for use
	Expiration Date	
	Manufactured by	