

PRINCIPLE

Enterobacter sakazakii is an enterobacteria which was blamed in cases of neonatal infections conveyed by infantile dried milk and resulting in serious enterocolitis or meningitis. It also can be responsible for hospital acquired infections. It is considered as a thermotolerant coliform, meaning that it may grow at a temperature of 44°C. Initially regarded as *Enterobacter cloacae* with yellow pigments, the *Enterobacter sakazakii* species was isolated in 1980 on the basis of study relating in particular to RNA-DNA hybridization. The virulence factors of this germ remain not elucidated to this day.

ESIA chromogenic Agar is used for specific detection of *Enterobacter sakazakii* in foodstuffs such as powdered milk. On this medium E.S. grow as blue colonies.

FORMULA

In grammes per litre of purified water

Peptone	7
Yeast extract	3
Sodium chloride	5
Sodium desoxycholate	0.6
Crystal violet	0.002
X-alpha-glucopyranoside	0.15
Agar	15

Final pH : 7,0 ± 0,2 à 25°C

METHOD

Suspend 30.8 g in 1 litre of purified water. Bring to the boil until completely dissolved. Autoclave 15 minutes at 121°C. Cool to 44-47°C then pour in Petri plates.

PROCEDURE

Detection of *Enterobacter sakazakii* according to standardized procedure:

Refer to ISO/TS 22964 standard.

Detection of *Enterobacter sakazakii* according to ESSB/ESIA method developed by AES/CHEMUNEX):

ESSB/ESIA was developed by AES/CHEMUNEX for the specific detection of *Enterobacter sakazakii* in foodstuffs samples, such as milk powder, and foodstuffs prepared from milk powder.

ESSB broth was specially formulated as to guaranty an optimal growth of *Enterobacter sakazakii*, and an inhibition of interfering flora making the screening simple on the ESIA Agar. (See protocol)

RESULTS

Typical colonies of *Enterobacter sakazaki*. appear blue. Using well isolated typical colonies *Enterobacter sakazakii* procedure to confirmation tests.

LIMITS & PRECAUTIONS

Some coliforms can grow on ES isolation Agar. They can easily be differentiated from *Enterobacter sakazakii* as they grow as purple colonies.

BIBLIOGRAPHY

1. Simmons, B.P., Gelfand, M.S., Haas, M., Metts, L. and Ferguson, J. 1989. *Enterobacter sakazakii* infections in neonates associated with intrinsic contamination of a powdered infant formula. *Infect Control Hosp Epidemio.* 10:398-401.
2. Van Acker, J., De Smet, F., Muyldermans, G., Bougateg, A., Naessens, A. and Lauwers, S. 2001. Outbreak of necrotizing enterocolitis associated with *Enterobacter sakazakii* in powdered milk formula. *J Clin Microbiol.* 39:293-297.
3. ISO/TS 22964 : Milk and milk products – Detection of *Enterobacter sakazakii*.

PACKAGING

Dehydrated

(to be stored between 1 and 30°C)

AEB150002 : 500 g

Ready to use ESIA

(to be stored between 2 and 25°C)

AEB520010 : Pack of 20 plates 90 mm

Ready to use ESSB

(to be stored between 2 and 25°C)

AEB611448 : Pack of 6 flasks 225 ml

Made by

AES CHEMUNEX - Combours - France

520010€ : 28/04/08 - C