

Isolation and characterization of *Cronobacter sakazakii* from environmental and food resources

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Abstract

Cronobacter sakazakii has been isolated from a wide range of environmental and several food sources. It is a yellow-pigmented colony that recently proposed genus consisting of six genomospecies encompassed the organisms previously identified as *Enterobacter sakazakii*. *Cronobacters* are opportunistic pathogens and aware as cause serious infections in infants, particularly neonates. It has been associated with outbreak of a rare form of infant meningitis, necrotizing enterocolitis (NEC), bacteraemia and therefore neonate mortality is varying from 40% to 80%. The aims of this study was to isolate and characterize on *Cronobacter sakazakii* from environmental and food sources. The samples were targeted on instant tea herb for children and dust from local markets and household vacuum cleaners respectively. Isolation was determined by a firstly procedure of the standard cultivating method described in Directive ISO 22964 is including pre-enrichment of the sublethally injured cells in a non-selective broth and selective enrichment to increase the proportion of *Cronobacter* cells among the whole microflora, then isolation by means of selective solid media, after that preliminary confirmation of the isolation strains was supposed. Consequentially final characterization of the bacterium was performed via ENTERO24 test kit. In total fifteen samples, *Cronobacter* spp. was isolated from 2/7 instant tea and 3/8 dust. Within 4 strains of other microorganism were isolated from dust samples. These identifications were satisfactory at more than 88% by program TNW ProAuto 7.0 confirmation. It is therefore concluded that *Cronobacters* is diverse contamination in these sources. None of the biochemical test proved to be a reliable method for confirmation. Thus prevent its transmission into these sources should be applied and played more attention.

Keywords: *Cronobacter sakazakii*, instant tea, house environment

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