

**Title:** Isolates of *Streptococcus mutans* group: biochemistry profile obtained from different biofilm sites in oral cavity.

**Authors:** YOSHINAGA, T.T<sup>1</sup>; FERREIRA, H.M<sup>1</sup>; ALMEIDA, V.F. <sup>1</sup>; SANTOS, M.S.<sup>1</sup>; FARIA, R.V.J. <sup>1</sup>; MATRANGOLO, F.S.V.<sup>1</sup>; NOBRE, S.A.M<sup>1</sup>.

**Institution:** <sup>1</sup> Laboratório de Epidemiologia e Biocontrole de Microrganismos, Universidade Estadual de Montes Claros – UNIMONTES. Cx. Postal 126, CEP 39.401-089, Montes Claros – MG.

**Abstract:** Dental caries is an infectious transmissible disease, further frequent in humans and is it one of the most expensive to restore. The multiplicity of extra-dental variables that determines if the disease exists or not will influence also in the rhythm and velocity of disease expansion. *Streptococcus mutans* group are put as the main etiological agents of the dental caries. Considering the importance of dental biofilm as a preceptor and consequent relevance in epidemiology of caries, we investigated association of populations of bacteria related on the process and display of the biofilm in the oral cavity. A collection of isolates was built from the biological samples of the vestibular and palatine faces of children in kindergarten. For better comprehension of the phenotypic characters of the collection, it was put under five biochemical tests: fermentation of mannitol (1) and sorbitol (2), esculin agar (3), catalase (4) and Voges-Proskauer (5) test. It was observed a variation in the expression of the isolates, independently of original position in biofilm. In the 29 viables isolates used, in esculin agar most of the isolates (~93%) shown positive results (opaque black) after 24 hours. For Catalase the result was immediate and negative for all isolates. For fermentation of mannitol also most of the isolates (~80%) shown positive results (pink/reddish color), sorbitol fermentation only about little more than half (~58%) of the isolates shown positive results, one of them shown completely negative, others isolates where inconclusive. For Voges-Proskauer proof, after 72 hours, bigger contrast was observed, that showed different result from previously references. Genotyping of the isolates targeted to Glucosyltransferases enzyme will be the next procedure, to enhance the hypothesis of the induced variability by the position in the biofilm.

**Key words:** biofilm; biochemistry profile; dental caries.

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