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## Relationship between haplotypes of the *gtf-B* gene of *Streptococcus mutans* with caries experience

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**Objective:** To determine if the variability of the *gtf-B* gene of *Streptococcus mutans* strains correlates with the dmft and DMFT indexes in children.

**Methods:** The study population consisted of children (n=44) of both sexes between 6-8 years of age. The dental clinical examination was carried out following a routine tact-visual procedure, being the dental elements registered as healthy, decayed, missing due to caries and filled teeth in primary and permanent dentition. From these data the dmft and DMFT indexes were calculated according to the WHO criteria. Samples of stimulated saliva were cultivated in Mitis Salivarius Agar for the growth of *S. mutans*. Bacterial colonies were recovered in heart brain broth and incubated for 48hs. DNA extraction was performed according to the Bollet method. The *gtf-B* virulence gene was amplified by PCR and sequenced. The *gtf-B* haplotypes were identified with the DNAsp program, and their genealogical relationships were established using the Median joining method implemented by the PopArt program. To correlate the genetic variants and the caries experience, the Spearman analysis was applied using the PAST program. This work is part of a research project approved by the Ethics Committee of the Faculty of Dentistry (UNC) and has no conflict of interest.

**Results:** Mean values were obtained for dmft:  $4.02 \pm 3.4$ ; DMFT:  $0.75 \pm 1.43$  and dmft + DMFT:  $4.77 \pm 4.2$ . Twenty-two haplotypes of the *gtf-B* gene were identified, being haplotype 2 the most common (shared by strains of 12 children). The haplotype network revealed little genetic differentiation and all formed part of a clonal complex. The correlation between the haplotypes of the *gtf-B* virulence gene with dmft ( $r = 0.242$ ;  $p = 0.11$ ), with DMFT ( $r = -0.0094$ ;  $p = 0.95$ ) and with dmft+DMFT ( $r = 0.198$ ;  $p = 0.197$ ) were statistically non-significant.

**Conclusion:** We found no evidence of a relationship between the variants of the *gtf-B* gene of *S. mutans* strains isolated from the children of the study and their caries experience.

### Biography

Fabiana Pia Marina Carletto Korber Doctor in Odontology (DMD), title issued by the Faculty of Dentistry of the National University of Córdoba-Argentina. Adjunct Professor (PhD), Pediatric Dentistry. Faculty of Dentistry of the National University of Córdoba-Argentina. She is one of the Member of the Institutional Ethics Committee and the Departmental Council of the Academic Department of Preventive and Social Dentistry. Former president of the Pediatric Dentistry Society of the Córdoba-Argentina. Has done many scientific publications and attended national and international conferences.

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