ONLINE ISSN : 1880-3997
PRINT ISSN : 0917-2394

**Pediatric Dental Journal**
Vol. 15 (2005) , No. 1 pp.103-109



# Viability of the Cariostat® medium as a source of DNA for further analysis through polymerase chain reaction

Omar Marianito Maningo Rodis[1)], Seishi Matsumura[1)], Naoyuki Kariya[1)], Ying Ji[1)] and Tsutomu Shimono[1)]

1) Department of Behavioral Pediatric Dentistry, Graduate School of Medicine and Dentistry, Okayama University

(Received on October 1, 2004)
(Accepted on December 27, 2004)

**Abstract** This simulation study was carried out to analyze and evaluate Cariostat-inoculated samples through a conventional PCR protocol specific for *Streptococcus mutans* strains and also for the purpose of establishing acceptable storage conditions for Cariostat-inoculated samples in cases in which optimal storage conditions are not feasible. A reference strain of *Streptococcus mutans* (ATCC 25175) was used in the study. The samples were subjected to different inoculation, incubation and storage conditions, and bacterial viability was checked through a conventional PCR technique and by assessment of colony growth on different agar media. Band detection of all samples incubated for even up to 120 hours at 37°C was still possible, indicating less DNA degradation. Samples stored at -20°C yielded results closest to those of samples incubated normally (without storage), followed by samples stored at 4°C and then samples stored at room temperature. The difference in these results, however did not influence the quality of DNA to an unsatisfactory level. For bacterial viability through agar plating, even if there were no more viable growth on the plates, band detection from strains inoculated and stored in Cariostat was still possible. From these results, we conclude that samples stored under various conditions can be further analyzed using DNA extraction protocols for conventional qualitative PCR amplification.

**Key words** Cariostat, DNA, *Streptococcus mutans*, PCR

To cite this article:

Omar Marianito Maningo Rodis, Seishi Matsumura, Naoyuki Kariya, Ying Ji and Tsutomu Shimono: Viability of the Cariostat® medium as a source of DNA for further analysis through polymerase chain reaction . *Ped Dent J* **15**: 103-109, 2005 .

JOI JST.JSTAGE/pdj/15.103