

## Mutagenicity Evaluation of Locally Produced Biphasic Calcium Phosphate Using Ames Test

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**Abstract :** Locally produced Biphasic Calcium Phosphate (BCP) consists of hydroxyapatite (HA) and  $\beta$ -tricalcium phosphate ( $\beta$ -TCP) which is a promising material for dentin and bone regeneration as well as in tissue engineering applications. The study was carried out to investigate the mutagenic effect of locally produced BCP using Ames test. Mutagenicity was evaluated with and without the addition of metabolic activation system (S9). This study was performed on *Salmonella typhimurium* TA98, TA102, TA1537, and TA1538 strains using preincubation assay method. The doses tested were 5000, 2500, 1250, 625, 313  $\mu$ g/plate. Negative and positive controls were also included. The bacteria were incubated for 48 hours at  $37 \pm 0.5$  °C. Then, the revertant colonies were counted. Data obtained were evaluated using non-statistical method. The mean number of revertant colonies in strains with and without S9 mix treated with locally produced BCP was less than double when compared to negative control for all the tested concentrations. The results from this study indicate that the locally produced BCP is non-mutagenic under the present test conditions.

**Keywords :** ames test, biphasic calcium phosphate, dentin regeneration, mutagenicity

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