

## Brazilian Oral Research

Print version ISSN 1806-8324

### Abstract

[SANTIAGO, Adriana Soares](#) et al. Response of osteoblastic cells to titanium submitted to three different surface treatments. *Braz. oral res.* [online]. 2005, vol.19, n.3, pp. 203-208. ISSN 1806-8324. doi: 10.1590/S1806-83242005000300009.

In the complex process of bone formation at the implant-tissue interface, surface properties are relevant factors modulating osteoblastic function. In this study, commercially pure titanium (cp Ti) samples were prepared with different surface characteristics using chemical attack with a sulfuric acid/hydrochloric acid based solution (treatment A); chemical attack plus anodic oxidation using phosphoric acid (treatment B); and chemical attack plus thermal oxidation followed by immersion in a sodium fluoride solution (treatment C). The samples were characterized by scanning electron microscopy (SEM), contact profilometry and contact angle. The biological performance of the prepared surfaces was evaluated using mice osteoblastic cell cultures for up to 21 days. Cells seeded on the different titanium samples showed similar behavior during cell attachment and spreading. However, cellular proliferation and differentiation were higher for samples submitted to treatments A and C ( $p \leq 0.05$ ;  $n = 3$ ), which were less rough and showed surface free energy with smaller polar components.

Keywords : Titanium; Surface properties; Osteoblasts; Biocompatible materials.

[?abstract in portuguese](#)   [?text in english](#)   [?pdf in english](#)

### services

-  custom services
-  Article in pdf format
-  Article in xml format
-  Article references
-  How to cite this article
-  Access statistics
-  Cited by SciELO
-  Similar in SciELO
-  Automatic translation
-  Show semantic highlights
-  Send this article by e-mail



All the content of the journal, except where otherwise noted, is licensed under a [Creative Commons License](#)

*Sociedade Brasileira de Pesquisa Odontológica*

Av. Lineu Prestes, 2227  
Caixa Postal 8216  
05508-900 S 鋼 Paulo SP - Brazil  
Tel./Fax: +55 11 3091-7810



[bor@sbpgo.org.br](mailto:bor@sbpgo.org.br)