

TITANIUM DISK SURFACES MODULATE DENTAL IMPLANTS OSSEOINTEGRATION

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Titanium and titanium alloys are widely used as implant materials due to their excellent biocompatibility and mechanical properties. The aim of this work is to compare five different titanium layers in order to investigate which one had a greater osteoconductive power using Human Osteoblasts (HObs) culture for seven days on these surfaces. The expression levels of some bone-related genes (ALPL, COL1A1, COL3A1, SPP1, RUNX2 and SPARC) were analyzed using real time Reverse Transcription-Polymerase Chain Reaction (real time RT-PCR). Results obtained in this study demonstrate that titanium disks can lead to osteoblast differentiation and extracellular matrix deposition and mineralization by the activation of different osteoblast genes in relation to the specific type of surface treatment.

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