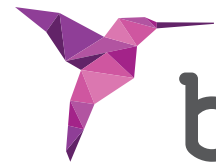


UNICCA®
SURFACE



btm®

Human
Technology





Neck

ATTENUATED ROUGHNESS:

Enhances marginal tissue retention, reducing bacterial colonization.



Threads

HIGH ROUGHNESS:

Allows bone anchorage outside of the threads.



Valleys

MEDIUM ROUGHNESS:

Guides the bone growth between the threads maintaining the implant's mechanical properties.

TRIPLE ROUGHNESS

The triple roughness topography, depending on the area of the implant (neck, threads or valleys) adapts to the different tissues and biomechanical needs to achieve better osseointegration.

WHAT IS UNICCA®?

UNICCA® is the surface of BTI implants that consists of a chemical modification with calcium ions over its triple roughness.

UNICCA® SURFACE, CERTIFIED PURENESS

BTI UNICCA® is the first implant system in the market awarded with the CleanImplant Foundation Mark, as a guarantee of the highest quality of its materials and surface.



CleanImplant Trusted
Quality Mark

2017-2026

◀ CHEMICAL MODIFICATION WITH CALCIUM IONS



Recent studies demonstrate that implants with the UNICCA® surface obtain significantly higher osseointegration rates in less time. ^[1]

DO NOT CONFUSE
UNICCA® is not a calcium titanate nor a calcium-phosphate/hydroxyapatite coating.



WHAT ARE THE RESULTS OF THE UNICCA® SURFACE?

1. UNICCA® IS ELECTROPOSITIVE, CLEAN AND HYDROPHILIC

-> **benefit:** it immediately initiates the regenerative process [2-5].

2. UNICCA® IMPROVES PERI-IMPLANT BONE STABILITY

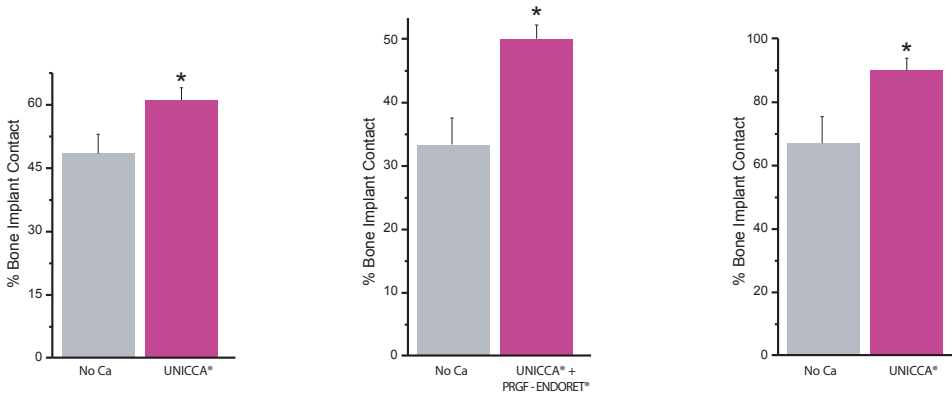
-> **benefit:** reduces implant failure. [13]

3. UNICCA® MINIMIZES BACTERIAL ADHESION

-> **benefit:** the attenuated roughness in the coronal area along with the use of PRGF - ENDORET® significantly reduces the bacterial colonization (in vitro study). [14]

4. UNICCA® STIMULATES OSTEOGENIC ACTIVITY

-> **benefit:** bone forming cells synthesize significantly, resulting in a greater extracellular matrix (in vivo and in vitro studies) [4, 6-9]



Surfaces subjected to human osteoblast cell tests. Adhesion measured at 3 hours, proliferation at 4 days, synthesis at 7 days.

* shows statistically significant differences ($p < 0.05$, Student T-Test)

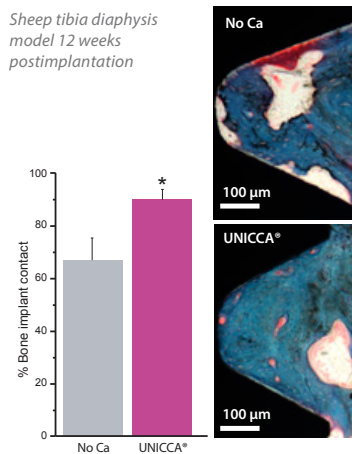
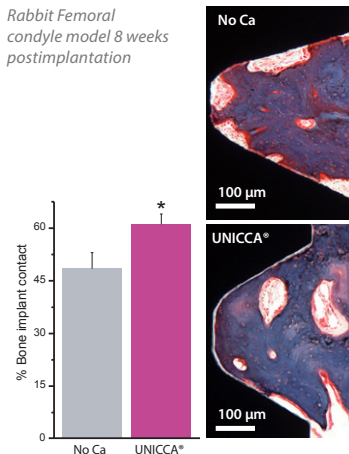
5. UNICCA® IS OSTEOGENIC: INDUCES THE FORMATION OF BONE TISSUE

-> **benefit:** accelerates and improves osseointegration (in vivo studies). [2, 6, 12, 13]

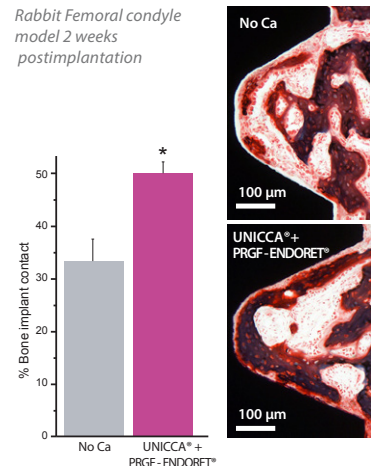
IN LOW DENSITY BONE [11]

IN POORLY VASCULARIZED BONE [4]

COMBINATION OF UNICCA® WITH PRGF - ENDORET® [11,12]



Accelerates early osseointegration



* Show statistically significant differences $p < 0.05$ between the groups (Student T-Test).

**BTI Comercial**

San Antonio, 15 · 5º
01005 Vitoria-Gasteiz
(Álava) · ESPAÑA
Tel: +34 945 140 024
pedidos@bticomercial.com

B.T.I.

Biotechnology Institute S.L.
Parque Tecnológico de Álava
Leonardo da Vinci, 14
01510 Miñano (Álava) España
bti.implantes@bti-implant.es

Subsidiaries**GERMANY**

Tel. +49 (0) 7231 428060
info@bti-implant.de

PORTUGAL

Tel: (351) 22 120 1373
bti.portugal@bticomercial.com

FRANCE

Tel: +33 (5) 54530209
serviceclient@bti-implant.fr

UK

Tel: +44 02039 661873
customerservice@bti-implant.co.uk

ITALY

Tel: +39 0270605067
info@bti-implant.it

USA

Office: 866 646 4067
bti@bti-implant.us

MEXICO

Tel: (52) 55 52502964
bti.mexico@bti-implant.com

www.bti-biotechnologyinstitute.com

NOTE: consult your distributor for the availability of the product in the different markets.

References

- [1] Favero R, Botticelli D, Antunes A., Martinez Sanchez R, Caroprese M, Salata L. Clin Implant Dent Relat Res 2015. doi:10.1111/cid.12311.
- [2] Tejero R, Rossbach P, Keller B, Anitua E, Reviakine I. Langmuir 2013;29:902–12.
- [3] Sánchez-Ilárduya MB, Trouche E, Tejero R, Orive G, Reviakine I, Anitua E. J Biomed Mater Res A 2012;1–11.
- [4] Anitua E, Piñas L, Murias A, Prado R, Tejero R. Colloids Surfaces B Biointerfaces 2015. doi:10.1016/j.colsurfb.2015.04.006.
- [5] Ellingsen JE. Biomaterials 1991;12:593–6.
- [6] Anitua E, Tejero R, Zalduendo MM, Orive G. J Periodontol 2013;84:1180–90.
- [7] Adams CS, Manseld K, Perlot RL, Shapiro IM. J Biol Chem 2001;276:20316–22.
- [8] Dvorak MM, Siddiqua A, Ward DT, Carter DH, Dallas SL, Nemeth EF, et al. Proc Natl Acad Sci U S A 2004;101:5140–5.
- [9] McKee MD, Nanci A. Microsc Res Tech 1996;33:141–64.
- [10] Favero, Lang NP, Favero R, Carneiro Martins Neto E, Salata LA, Botticelli D. Clin Oral Implants Res. 2016 Jun 14. doi: 10.1111/clr.12906.
- [11] Anitua E, Prado R, Orive G, Tejero R. J Biomed Mater Res A 2014;20072018:1–12.
- [12] Tejero R, Anitua E, Orive G. Prog Polym Sci 2014;39:1406–47.
- [13] Eduardo Anitua, Laura Piñas and Mohammad Hamdan Alkhraisat International Journal of Implant Dentistry (2017) 3:49 DOI 10.1186/s40729-017-0111-5
- [14] Eduardo Anitua, Ricardo Tejero, Miguel Angel Pacha-Oliverenza, Maria Coronada Fernandez-Calderon, Maria Delgado-Rastrollo, Mari Mar Zalduendo; Wiley Online Library 2017 Jan. DOI: 10.1002/jbm.b.33860