Novel vacuum plasma technology for Regenerative activation of dental implant

Contaminants of hydrocarbon are removed from the surfeace of implant fixture by the vacuum plasma to attract more blood and enhance osseointegration efficacy.

XPEEDActive cycle of Plasma X Motion has been validated to increase attachment, proliferation, and differentiation of osteoblast cells as well as the adsorption of protein.

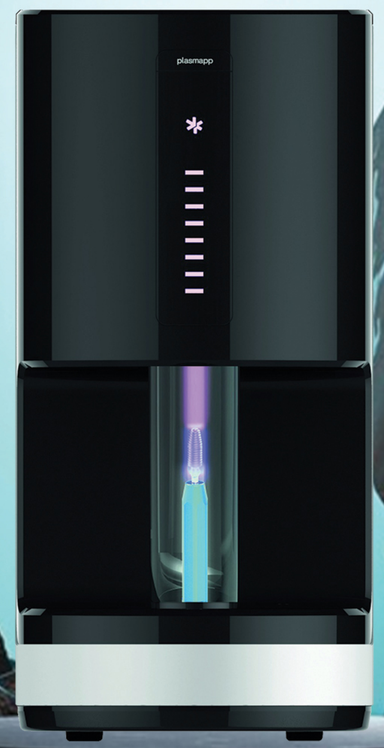
Plasma X Motion makes high-performance implant surfaces more perfect.

***XPEEDActive** (Regenerative Activation by Plasma)

MEGA'GEN
For Lifetime Smiles

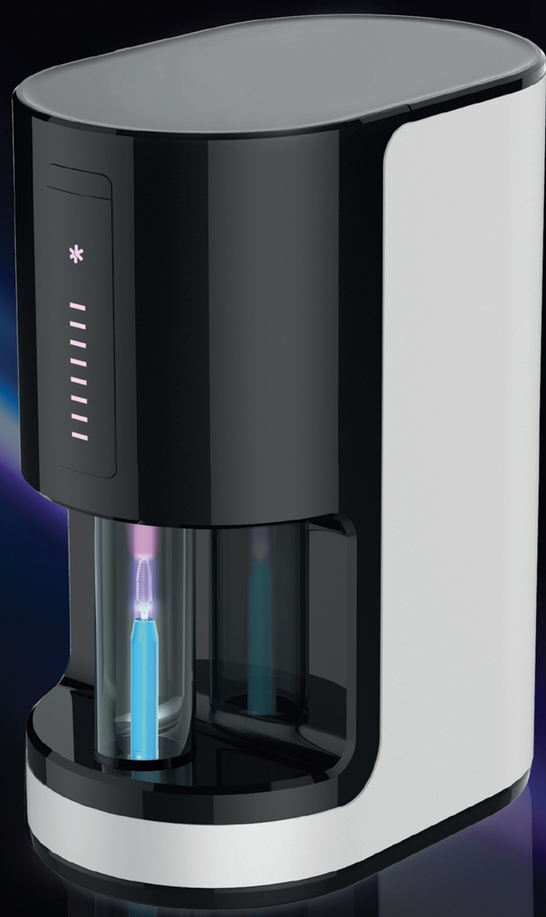
MEGA'GEN
For Lifetime Smiles

Plasma X® motion



Plasma X *motion*

Regenerative Activator for Various Types of Implant



MEGA'GEN
For Lifetime Smiles

Plasma X *motion*

Regenerative Activator for Various Types of Implant

Model	*Plasma X motion*
Size (W x H x D)	168 x 340 x 254
Weight	6kg
Cycle Time	60 sec

MEGAGEN
For Lifetime Smiles

Safe and Bio-Compatible Surface Technology

XPEEDActive (Regenerative Activation by Plasma)

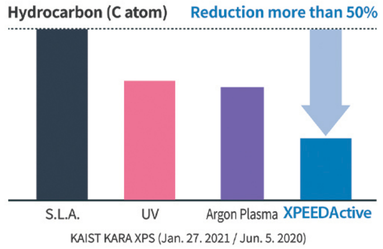
1 min. @Room Temperature

Contaminants on Implant and Bone

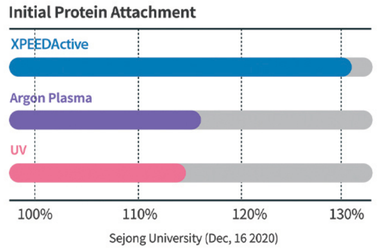
SAFE and Bio-Compatible Surface
Super-clean surface (~90% Removed) and Sterilization (5-Log Reduction)
Deactivating Microorganism and Eliminating Contaminant such as hydrocarbon

Improving Osseointegration

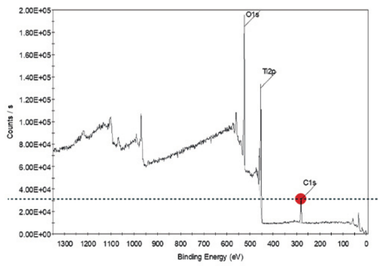
Super Clean Bio-Compatible of XPEEDActive



KAIST KARA XPS (Jan. 27. 2021 / Jun. 5. 2020)

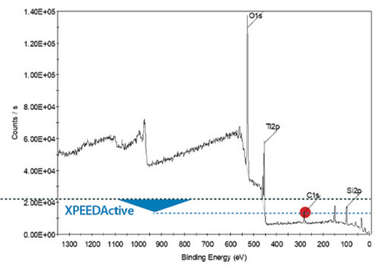


Sejong University (Dec, 16 2020)



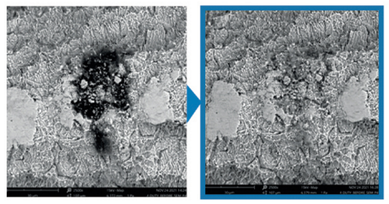
Hydrocarbon (C atom): 26.11%

KAIST KARA XPS (Jan. 27. 2021)

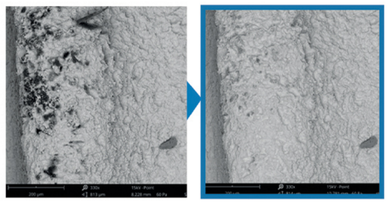


Hydrocarbon (C atom): 11.04%

Plasma Regenerative Activation Implant Comparison (SEM)



Control **After the treatment**



Control **After the treatment**

Plasma X® motion

Technologies developed to shorten healing time and enhance stability

Higher Osseointegration performance with Higher Survival Rate

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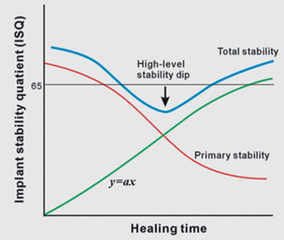
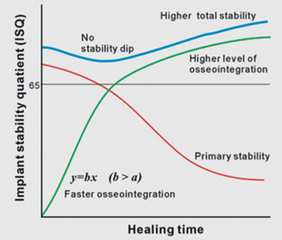
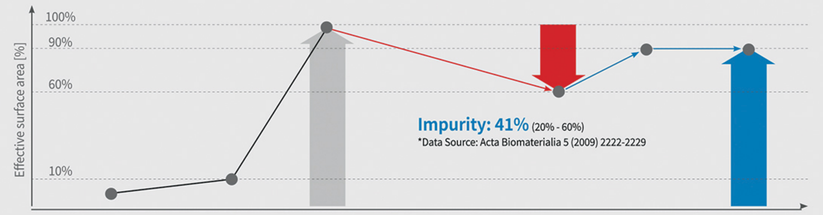




Process of Contamination and Regenerative activation

1. SLA treatment generates micro-structure on the implant surface to increase effective surface area ▶ **100%**
2. The implant surface is contaminated by the cleaning, sterilization and shelf life to decrease effective surface area ▶ **60%**
3. The contaminants are eliminated to regenerate effective surface area and to be delivered to patient under vacuum condition ▶ **90%**



What can be a solution for removing the hydrocarbon contamination?