

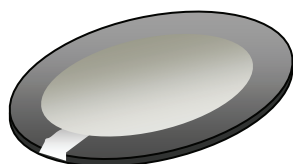
## Nano crystalline Hydroxyapatite Q-Sense Crystal - QSX 327

### OVERVIEW

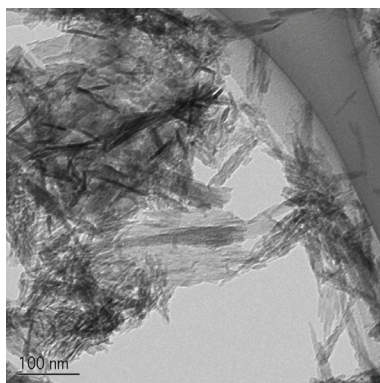
Hydroxyapatite (HA) is a calcium phosphate mineral ( $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$ ) which is the main constituent in bone and teeth. HA is known for its special properties, especially when in contact with living tissue. HA's bioactivity is advantageous in a range of applica-

tions, such as bone implants and stents. Due to HA's unique similarity to the hard tissues found in biological systems, it is widely used as reference material whenever interactions between hard tissues and biological species are of interest. Q-Sense collaborates with the

company Promimic that has developed a proprietary method to coat materials with nanocrystalline Hydroxyapatite having high stability and smoothness, called Promimic HA<sup>NANO</sup>.



QSX 327 – HA crystal



TEM image of HA nano crystals  
XY axes scale =100 nm

Surface specifications	
Frequency	4.95 MHz +/- 50 kHz
Cut:	AT
Temperature dependence:	+/- 5 ppm within 0 to 40 degrees C.
Diameter	14 +/- -0.05 mm
Design	plano-plano bevelled using a radius of 140 mm. Inner diameter of bevel 10.5 mm
Finish	Optically polished, surface roughness of electrode less than 3 nm (RMS)
Supporting Electrode	5 nm Cr + 50 nm Ti
Surface Chemistry	Uniform Nano crystalline Hydroxyl Apatite ( $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$ ) coating by Promimic AB. Nano particle size 20-100 by 5-10nm. Effective coating ~10 nms Ca/P ratio 1.63
Cleaning Methods	UV/Ozone, Neutral Surfactants

Subject to change without further notice

### Reference

Kjellin P, Andersson M. "Synthetic nano-sized calcium phosphate and method of production" PCT/SE/2005/000896

