

ABSTRACT

“COMPOSITE BONE IMPLANTS”

The invention provides natural multi-composite bone implants such as bone-connective tissue-bone and osteochondral implants for the replacement and/or repair of, for example and in particular a damaged or defective bone-menisus-bone joint or a bone-patella tendon-bone joint or osteochondral lesions, methods of preparing the composites and uses thereof. The invention also provides natural or native composite bone-connective tissue- bone and osteochondral matrices or scaffolds that are substantially decellularised for subsequent transplantation/implantation.

FIGURE 8B

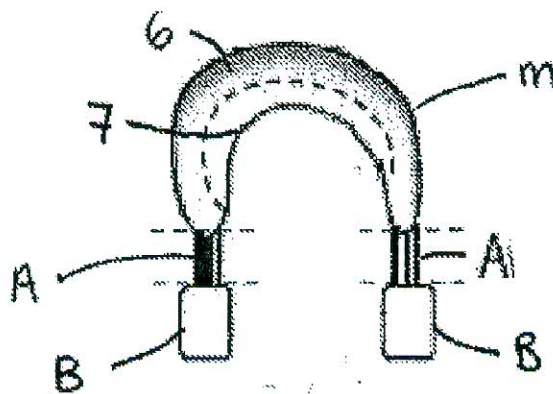


FIGURE 1

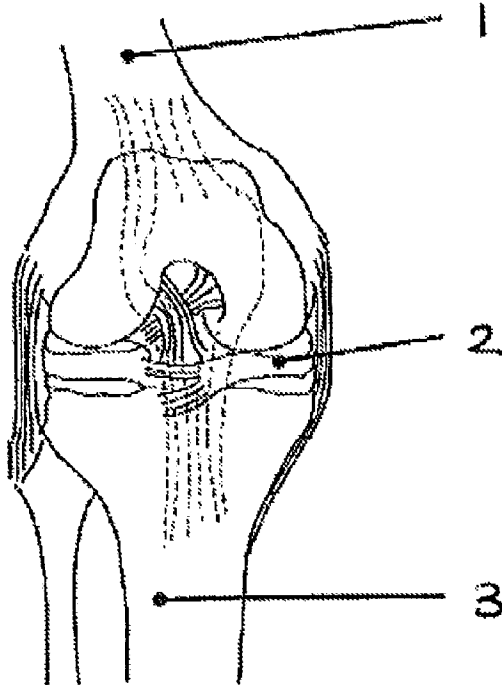


FIGURE 2

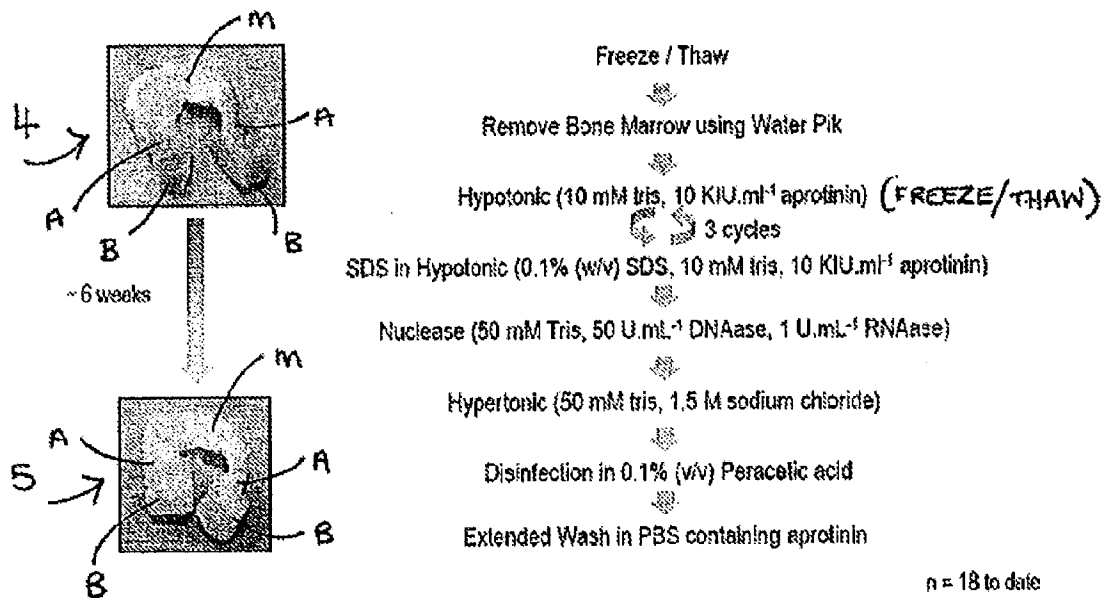


FIGURE 3

Haematoxylin & Eosin

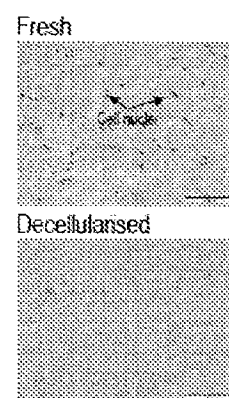
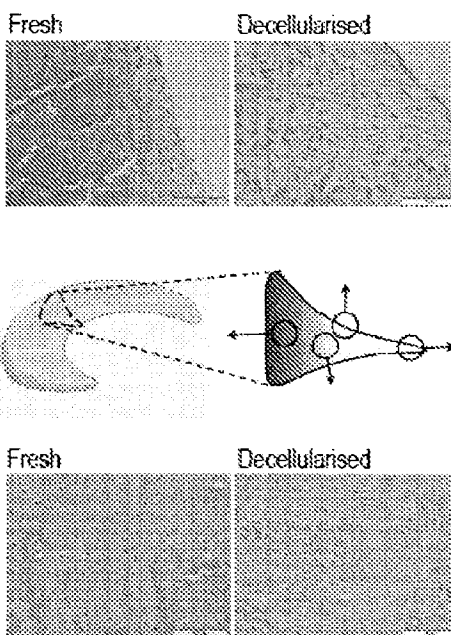
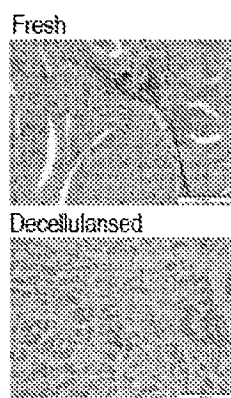


FIGURE 4

McNeal's Tetrachrome

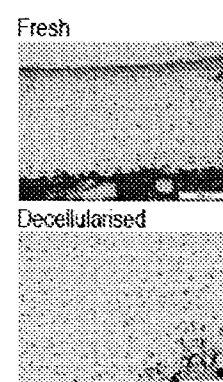
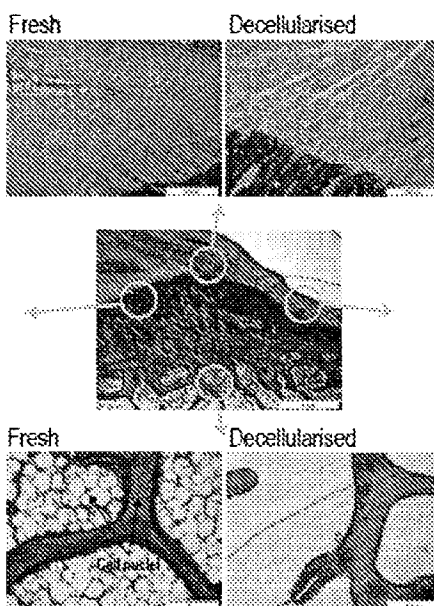
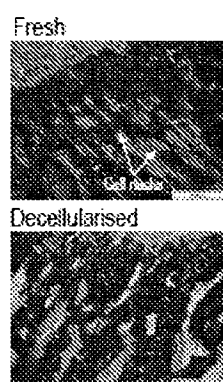


FIGURE 5A

* $p < 0.05$, ** $p < 0.01$

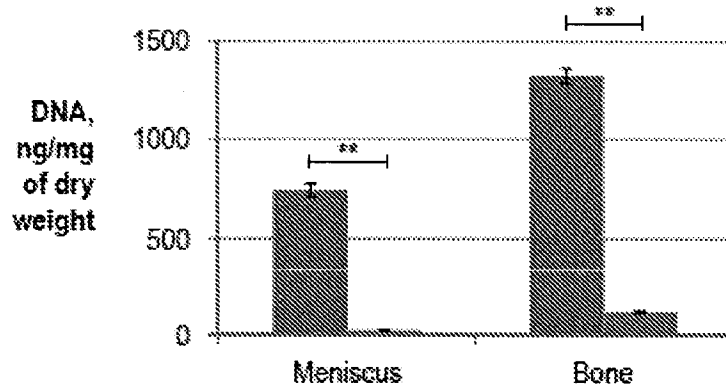


FIGURE 5B

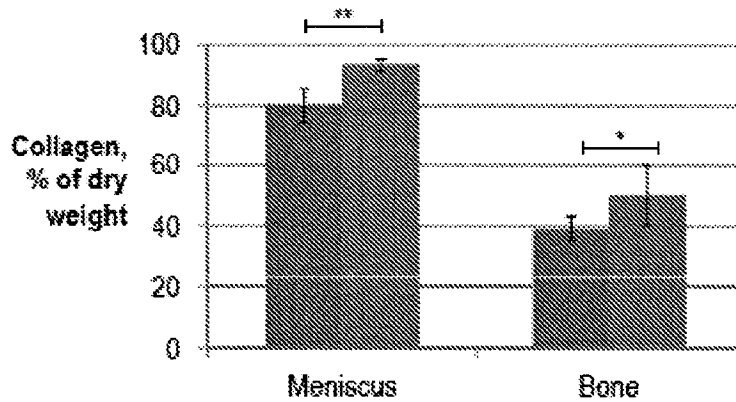


FIGURE 5C

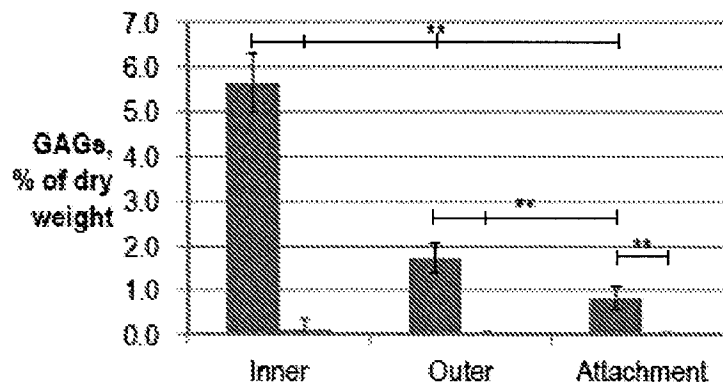


FIGURE 5D

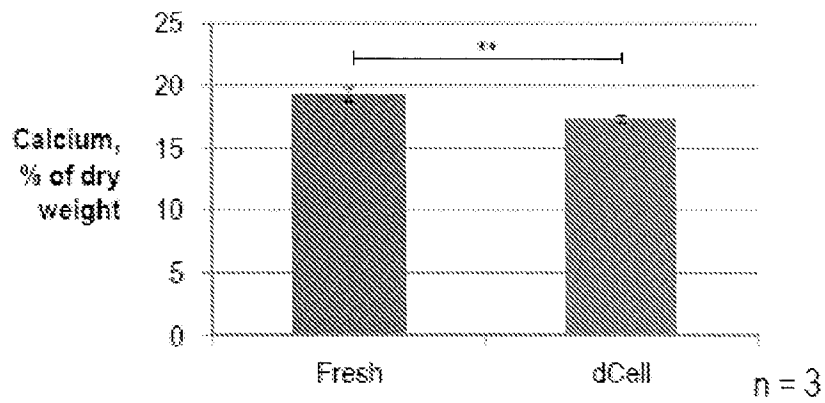


FIGURE 6

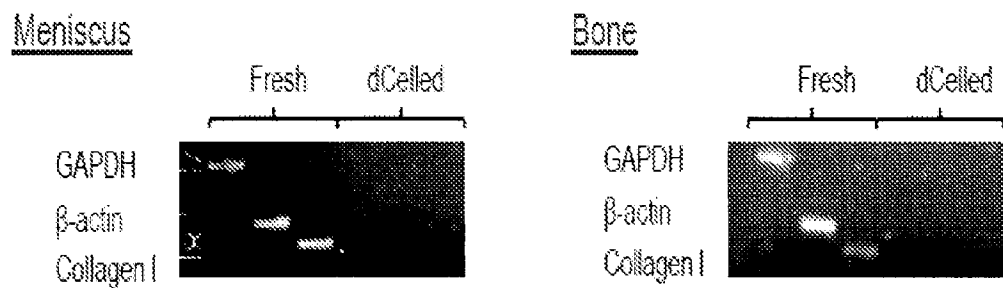


FIGURE 7

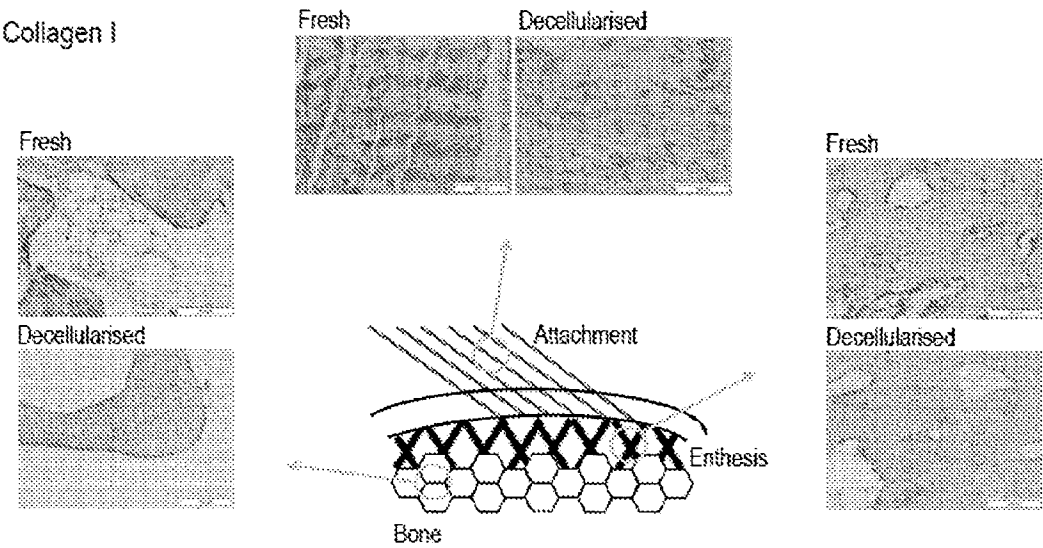


FIGURE 8A

ECM Component	Fresh				Decellularised			
	Inner	Outer	Attach	Bone	Inner	Outer	Attach	Bone
Collagen I	++	+++	+++	+++	+	++	+++	+++
Collagen II	+++	+	++	++	+++	+	++	++
Collagen III	++	++	++	++	++	++	+	++
Collagen IV	+	++	+	++	-	-	-	-
Collagen VI	+	++	++	++	+/-	+/-	+/-	++
Osteocalcin	n/a	n/a	n/a	++	n/a	n/a	n/a	++

FIGURE 8B

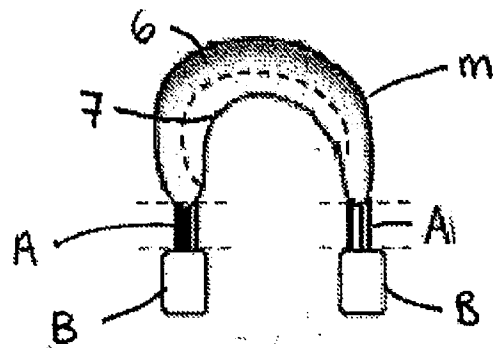


FIGURE 9

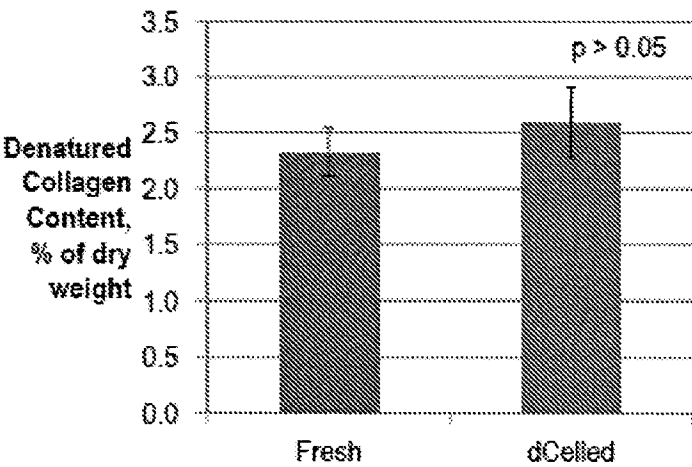


FIGURE 10

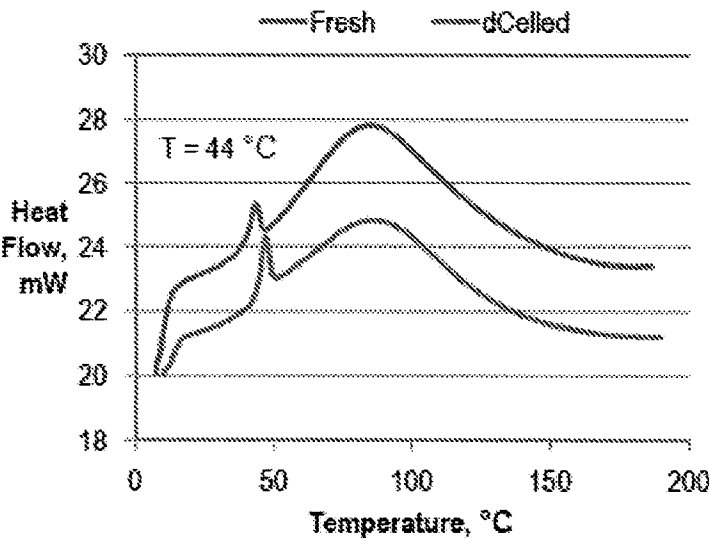


FIGURE 11A

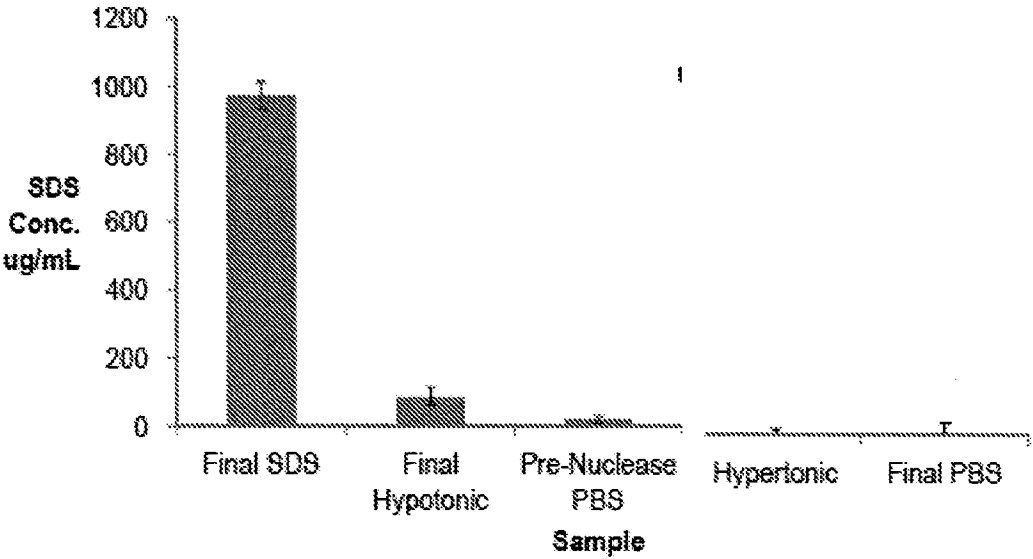


FIGURE 11 B

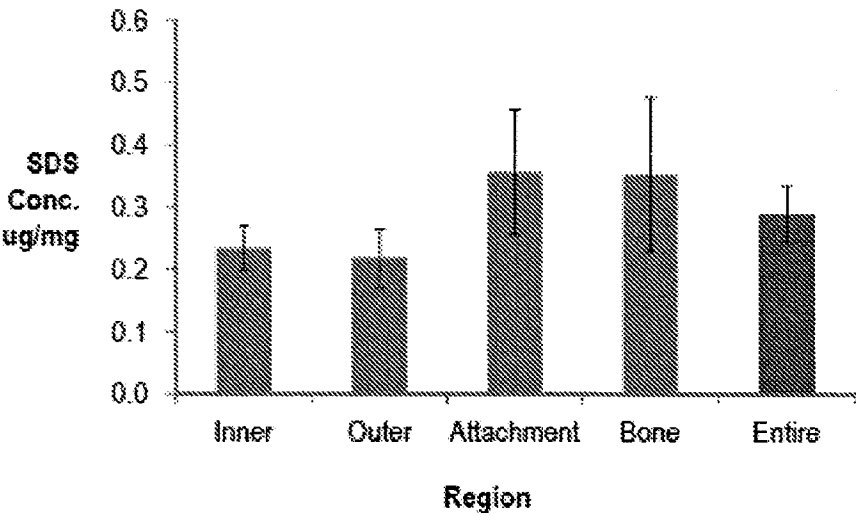


FIGURE 12

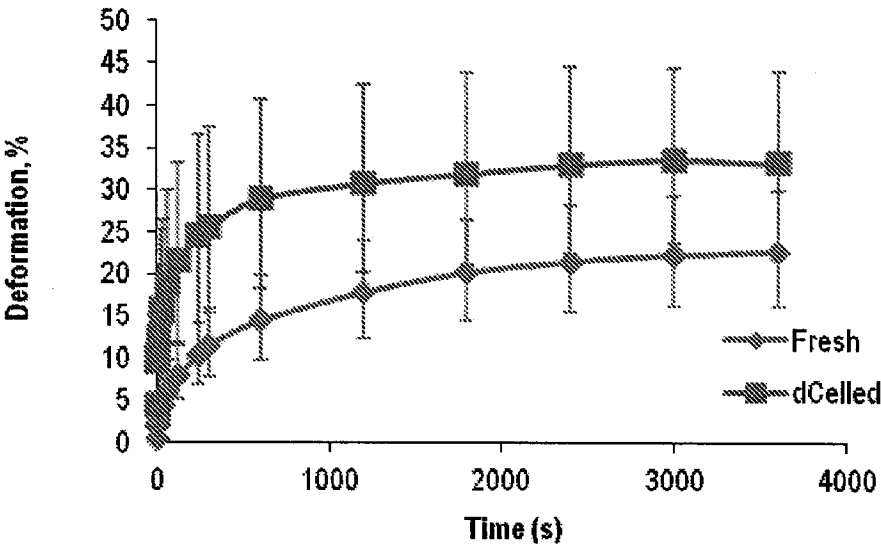
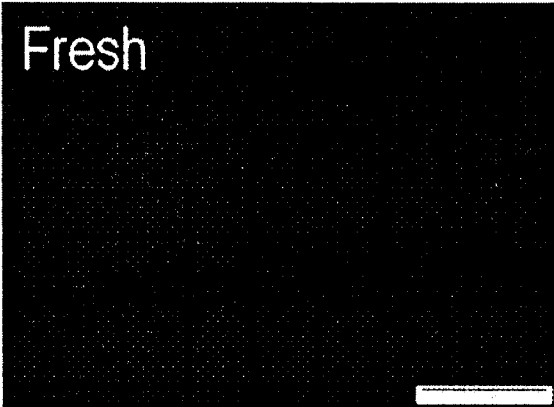


Figure 13A



Figures 13B

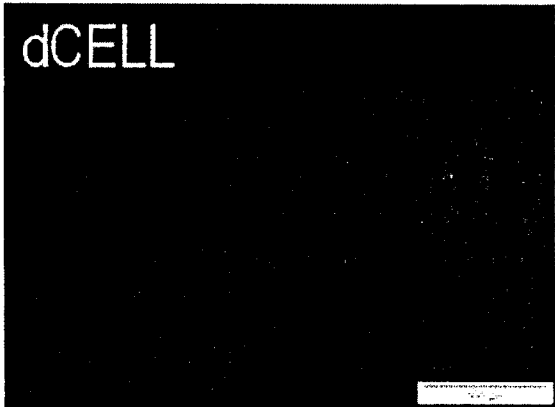


Figure 14A

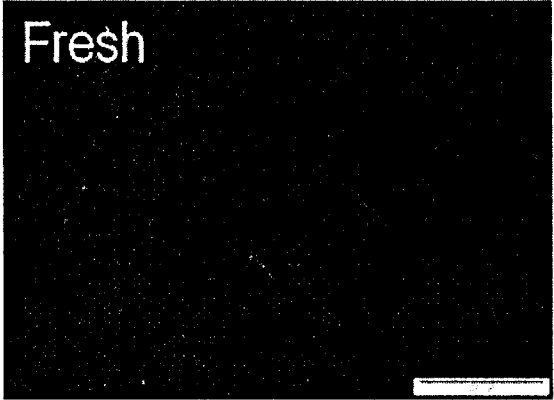


Figure14B

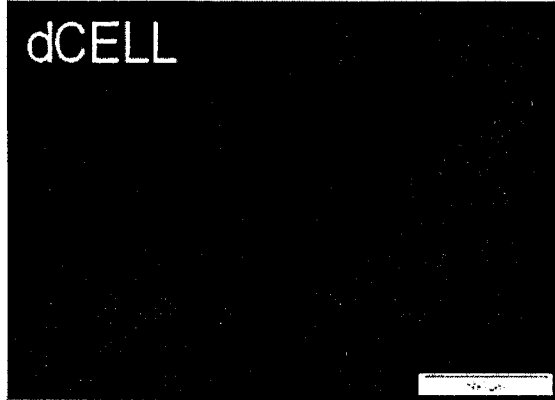


Figure 15A

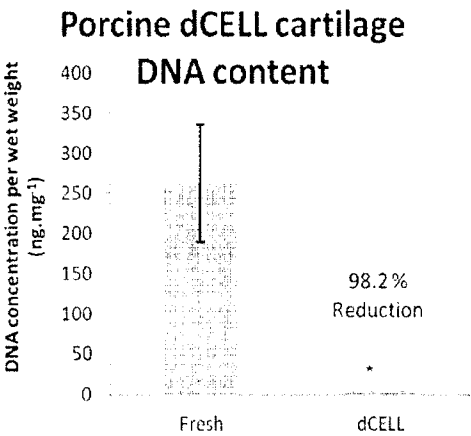


Figure15B

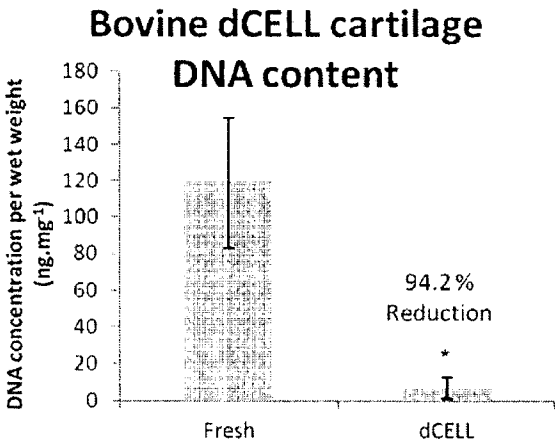


Figure16A



Figure16B

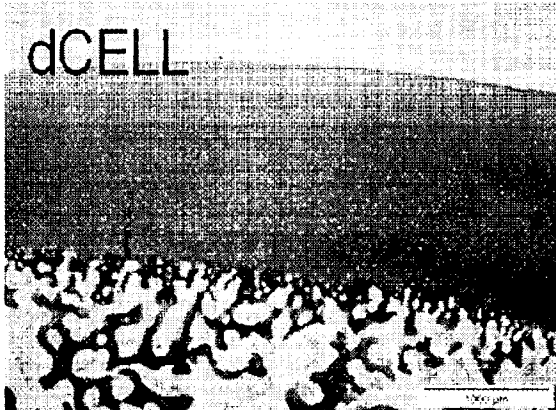


Figure 17A

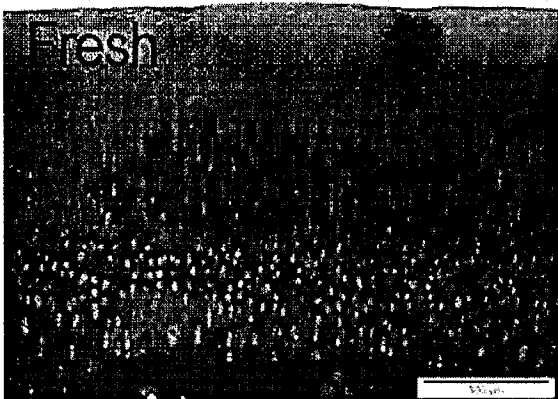


Figure 17B

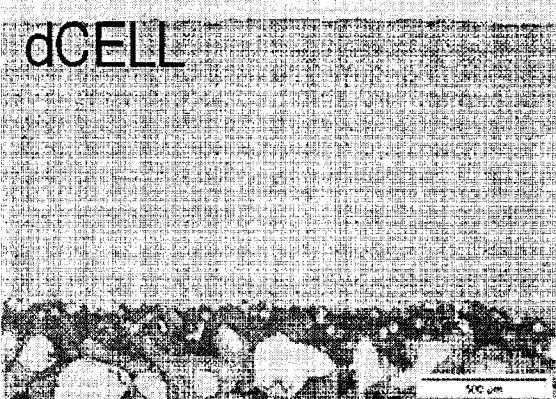


Figure 18A

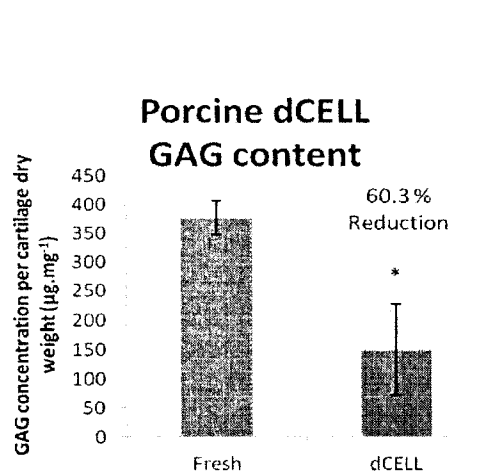


Figure 18B

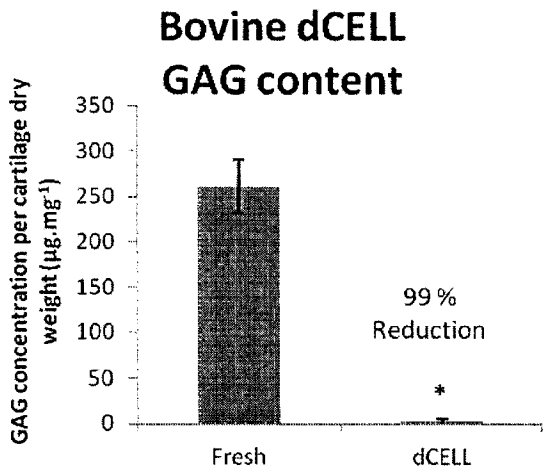


Figure 19A

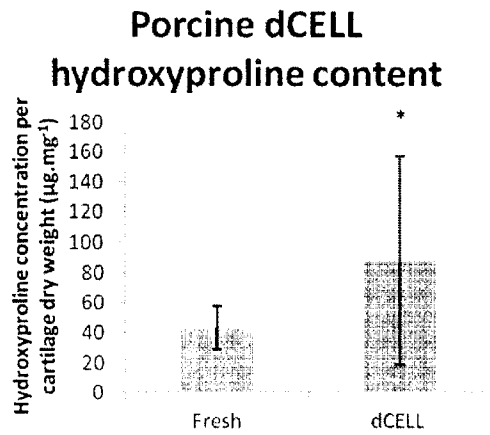


Figure 19B

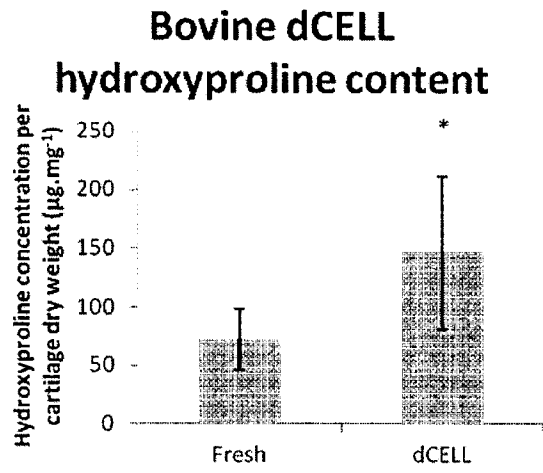


Figure 20A

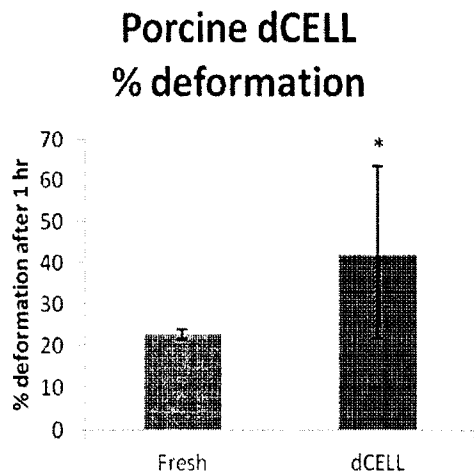


Figure 20B

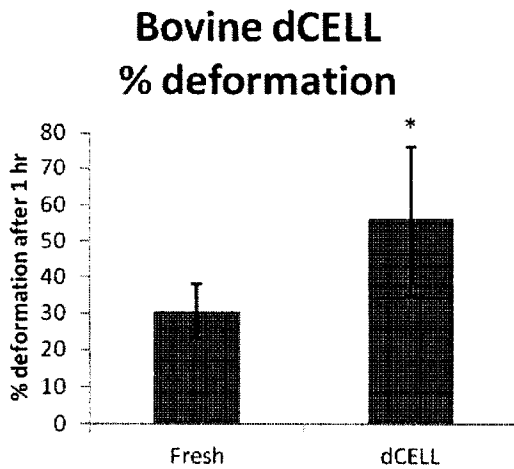


Figure 21

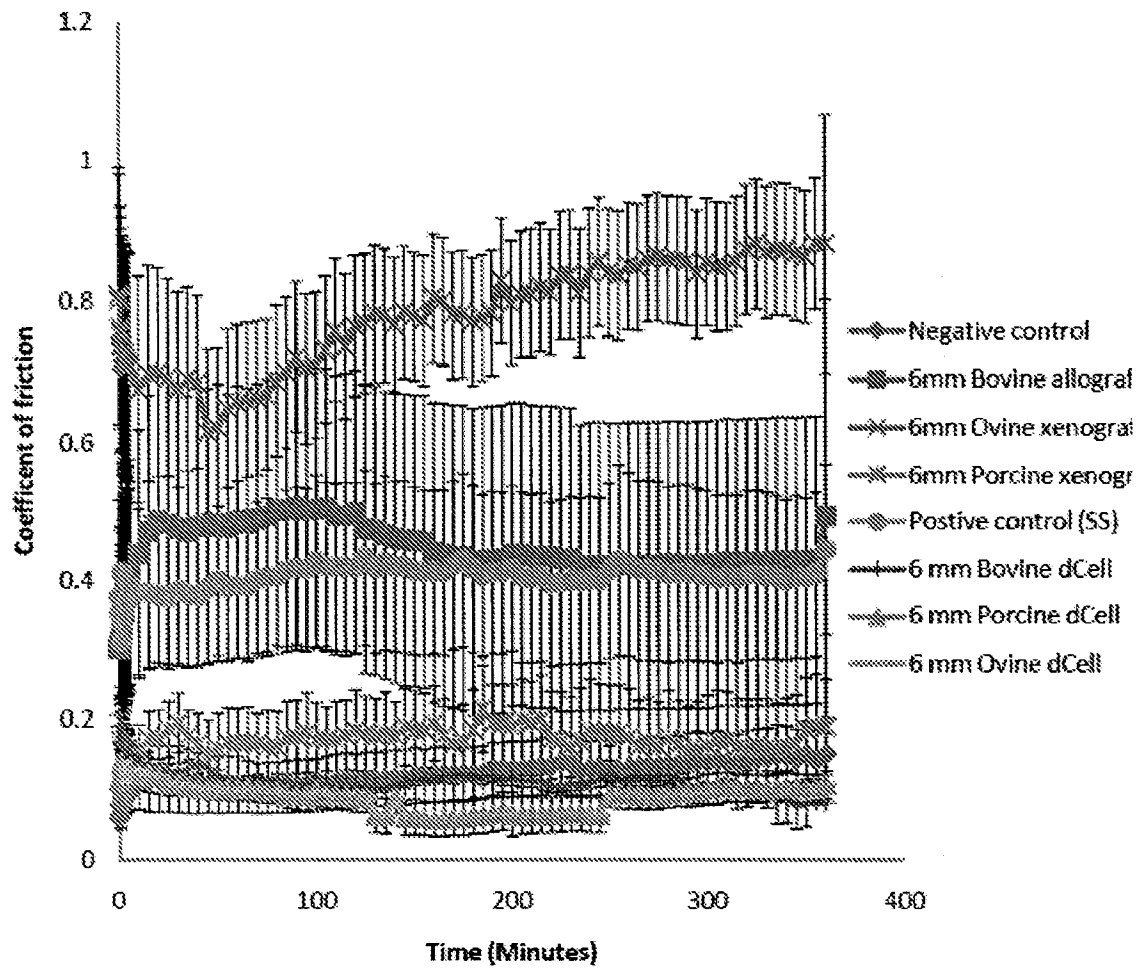


Figure 22

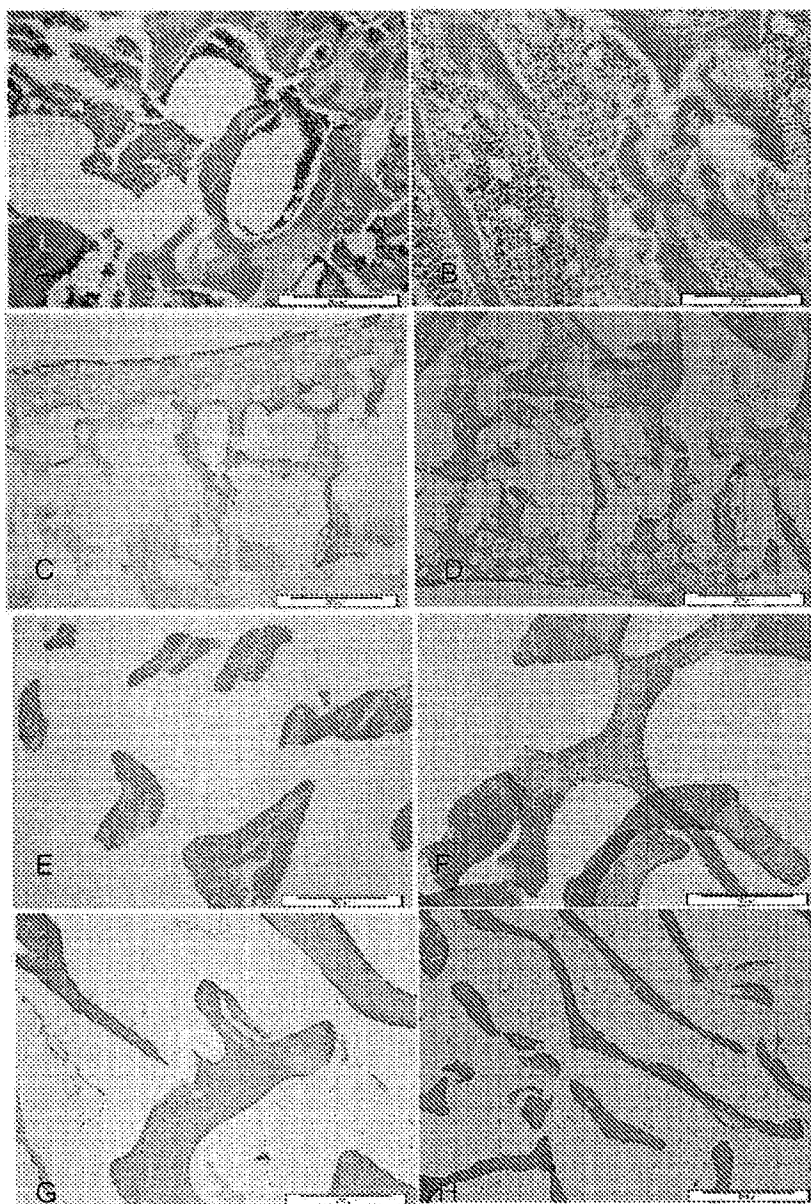


FIGURE 23

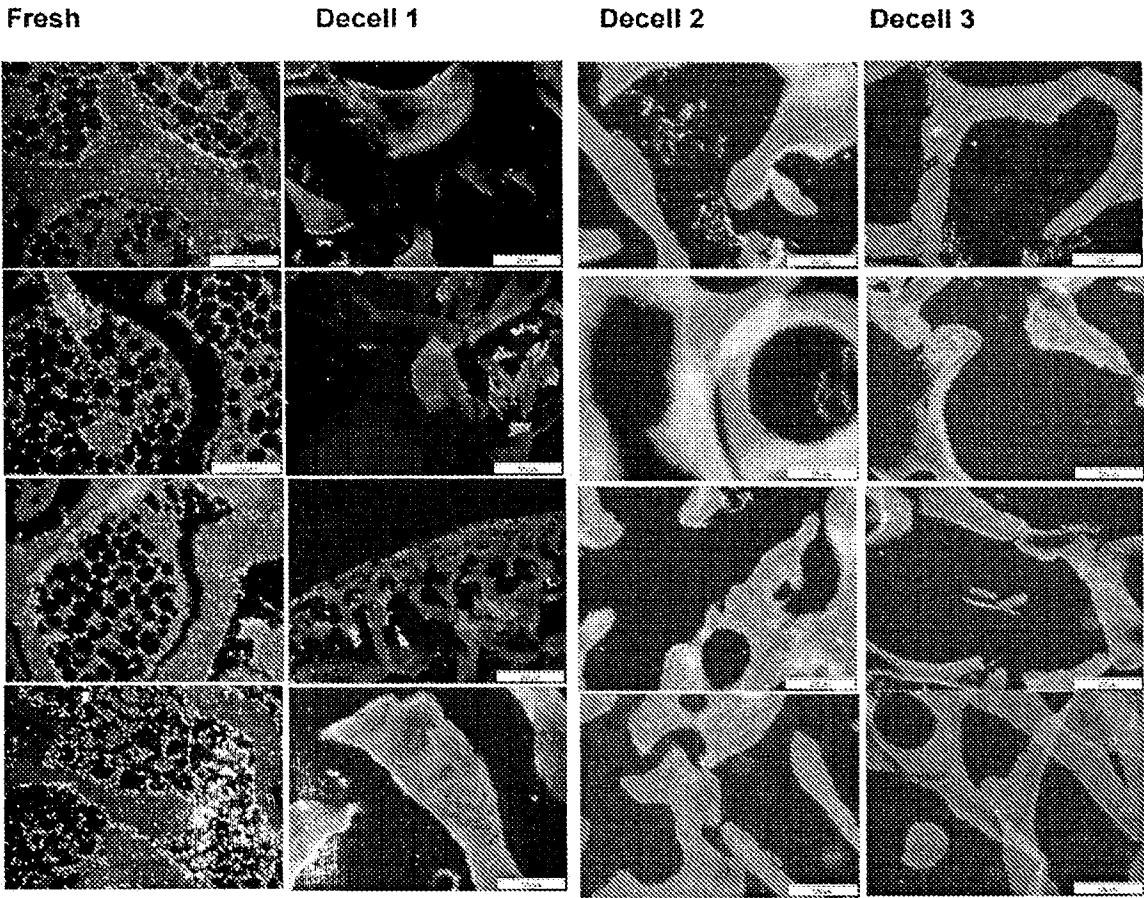
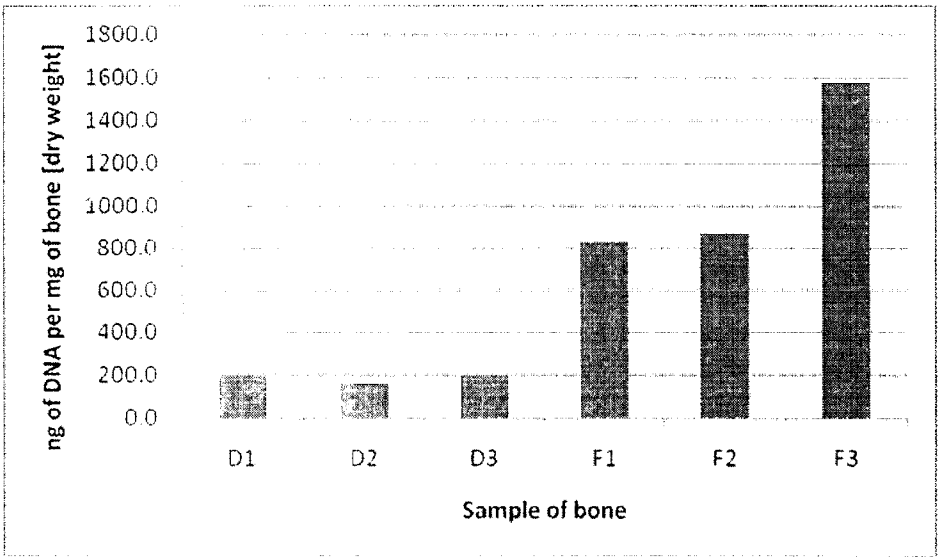


Figure 24



(H. SUBRAMANIAM)
of SUBRAMANIAM & ASSOCIATES
Attorneys for the applicants

Figure 25

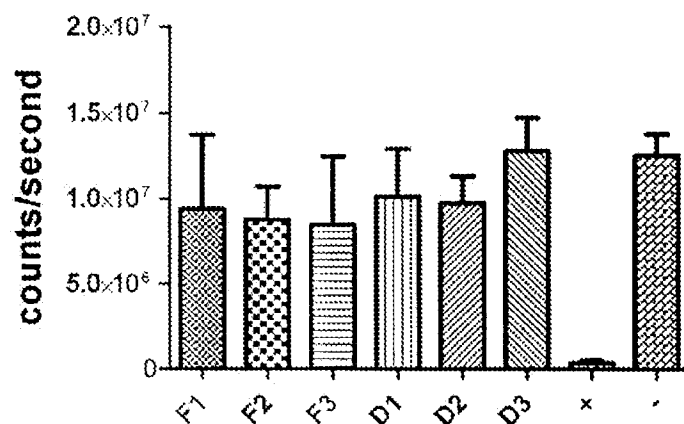


Figure 26

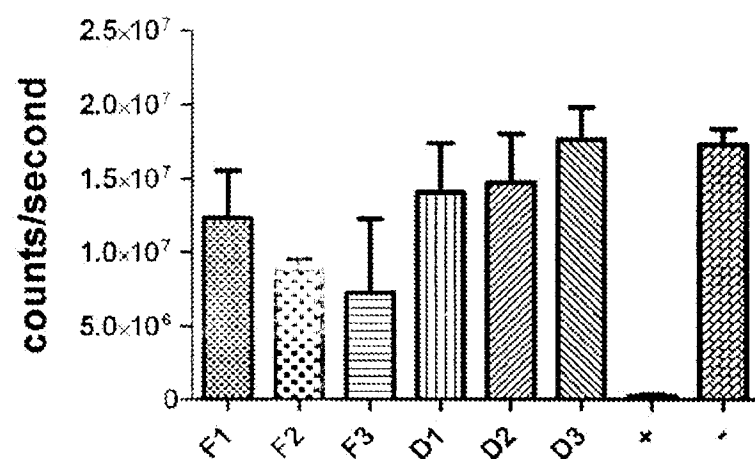


Figure 27

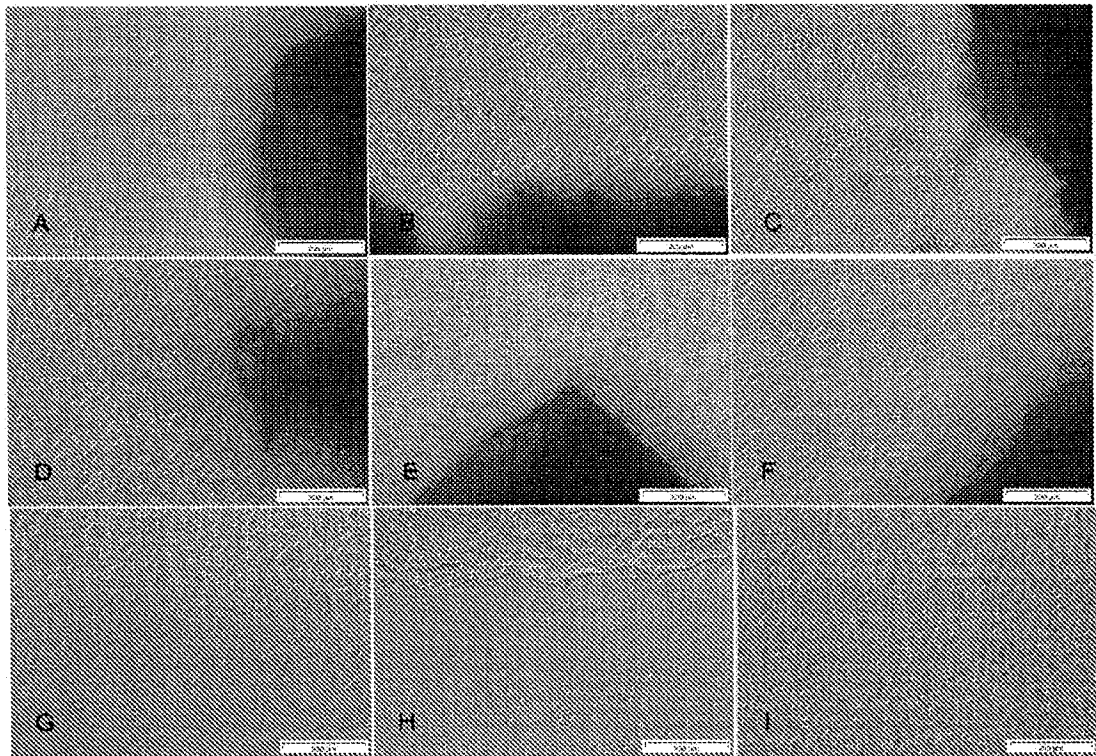
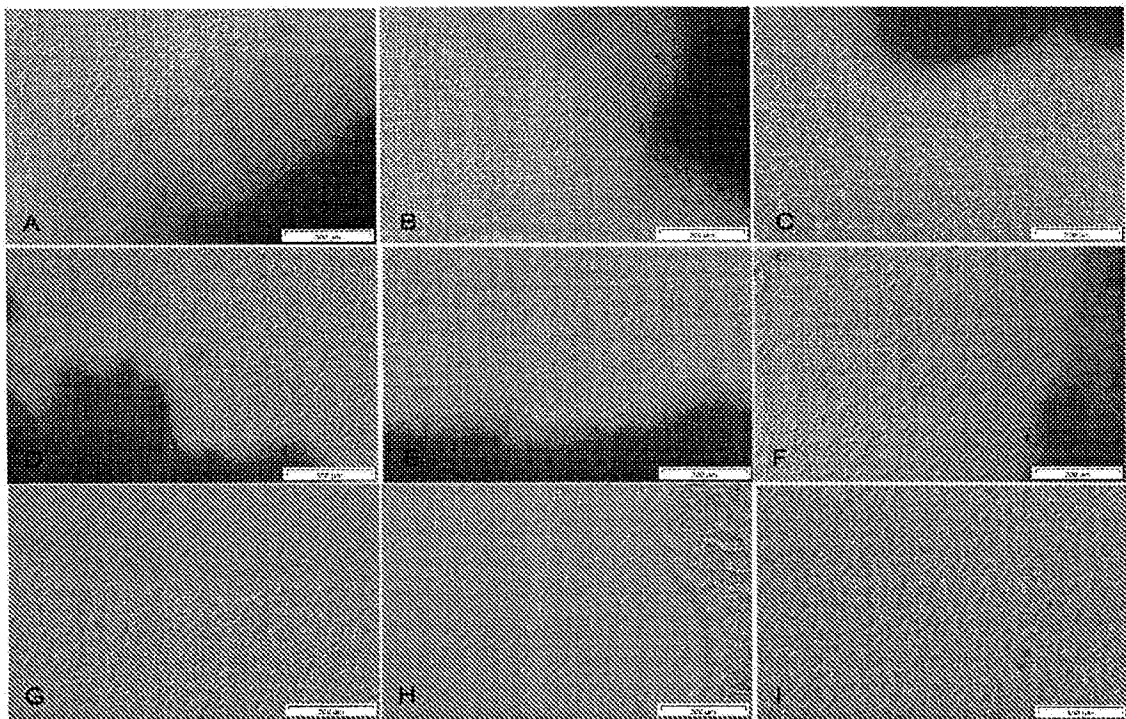


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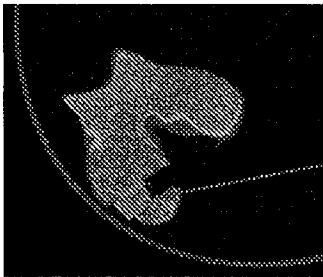


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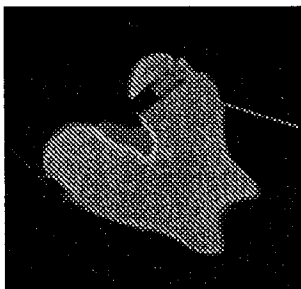


Figure 30

Figure 31

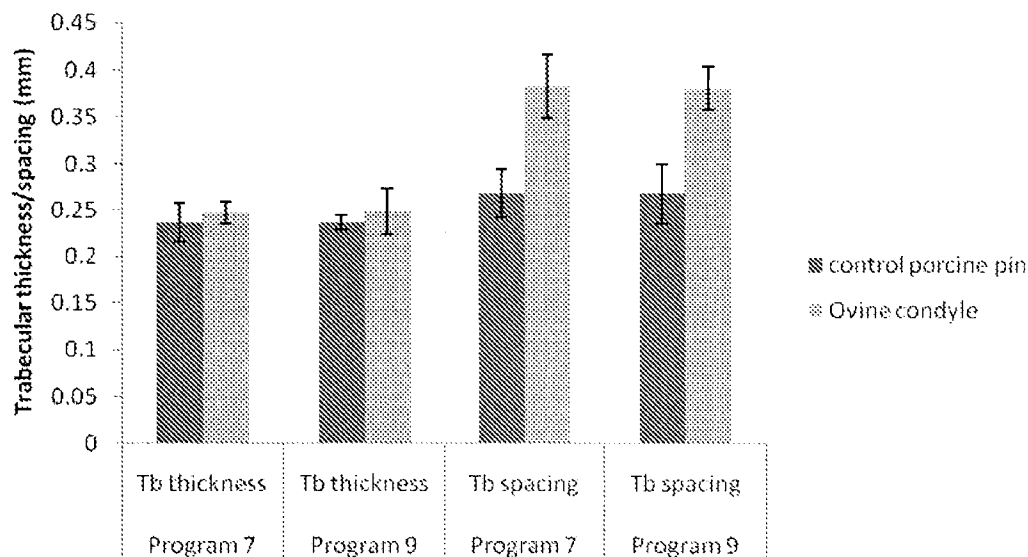


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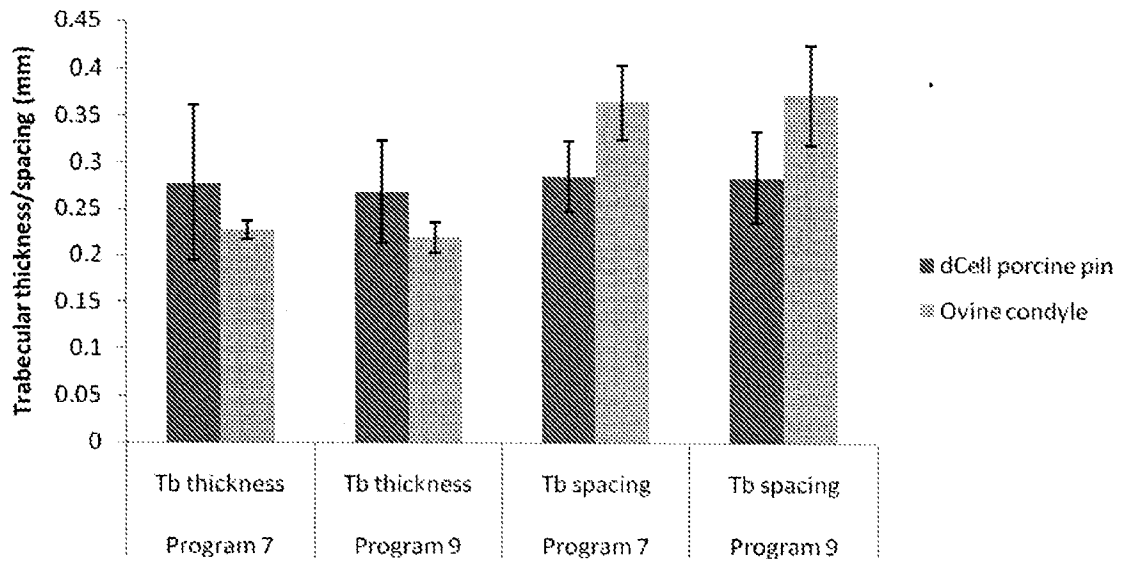


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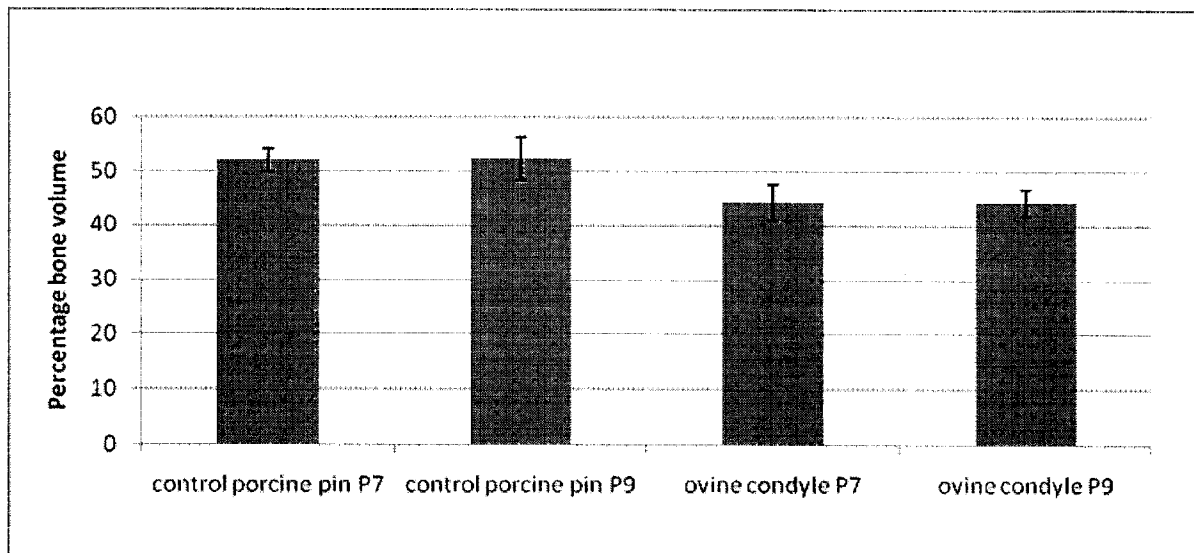


Figure 34

