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<b>Supplementary Table 1: Summary of the main bands noted by the FTIR analysis.</b>		
Values	Vibration	Group
941, 943, 945, 960, 962, 967, 969	v1, symmetrical stretching	P-O
	v2, stretching	P-O
1002, 1007, 1012, 1021, 1087, 1116	v3, stretching	P-O
542, 543, 558, 561, 564, 589, 598, 601	v4, wagging	P-O-P
872	v3, Type B substitution	CO <sub>3</sub> <sup>2-</sup>
628	vL, stretching	OH <sup>-</sup>

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**SUPPLEMENTARY TABLE 2: RESULTS OF THE IMMUNOHISTOCHEMICAL ANALYSIS AND SCORING OF OSTEOGENIC MARKER EXPRESSION OF OSTEOCALCIN**

<b>INTERVAL</b>	<b>Bone graft material</b>	<b>Osteoblast, Mean ± SD</b>	<b>Osteocyte, Mean ± SD</b>	<b>Fibroblastic cells, Mean ± SD</b>	<b>Fibrous matrix, Mean ± SD</b>	<b>Bone matrix, Mean ± SD</b>	<b>Osteoid, Mean ± SD</b>
<b>2 WEEKS</b>	Control	0.00 ± 0.00	0.00 ± 0.00	1.0 ± 0.82	2.50 ± 0.58	0.00 ± 0.00	0.00 ± 0.00
	Bio-Oss®	0.00 ± 0.00	0.00 ± 0.00	1.75 ± 1.50	2.25 ± 1.50	0.00 ± 0.00	0.00 ± 0.00
	Cerasorb® M	0.00 ± 0.00	0.00 ± 0.00	3.25 ± 0.50	3.25 ± 0.50	0.00 ± 0.00	0.00 ± 0.00
	Osbone®	0.00 ± 0.00	0.00 ± 0.00	2.50 ± 0.58	2.25 ± 0.50	0.00 ± 0.00	0.00 ± 0.00
<b>1 MONTH</b>	Control	0.00 ± 0.00	0.75 ± 1.50	2.00 ± 1.15	2.50 ± 1.00	0.25 ± 0.50	0.00 ± 0.00
	Bio-Oss®	0.00 ± 0.00	2.25 ± 1.50	3.00 ± 0.00	3.75 ± 0.50	2.75 ± 1.89	0.00 ± 0.00
	Cerasorb® M	0.00 ± 0.00	3.75 ± 0.50	3.00 ± 0.82	4.50 ± 0.58	4.00 ± 0.00	0.25 ± 0.50
	Osbone®	0.00 ± 0.00	3.75 ± 0.50	3.25 ± 0.50	3.50 ± 0.58	4.00 ± 0.00	0.25 ± 0.50
<b>3 MONTHS</b>	Control	1.00 ± 1.41	2.25 ± 1.50	3.00 ± 0.00	3.25 ± 0.50	1.75 ± 1.50	0.50 ± 0.58
	Bio-Oss®	0.50 ± 0.58	3.00 ± 0.00	3.25 ± 0.50	3.50 ± 0.58	3.75 ± 0.50	1.00 ± 0.00
	Cerasorb® M	0.75 ± 0.50	3.25 ± 0.50	2.75 ± 1.26	3.50 ± 0.58	3.75 ± 0.50	0.50 ± 0.58
	Osbone®	0.75 ± 0.50	3.25 ± 0.50	2.75 ± 1.26	3.25 ± 0.50	3.50 ± 0.58	0.50 ± 0.58
<b>6 MONTHS</b>	Control	0.75 ± 0.96	0.50 ± 1.00	3.00 ± 0.00	3.25 ± 0.50	3.25 ± 0.05	1.25 ± 1.26
	Bio-Oss®	0.25 ± 0.50	4.00 ± 0.00	3.50 ± 0.58	3.25 ± 0.50	3.25 ± 0.05	0.50 ± 0.58
	Cerasorb® M	0.50 ± 0.58	3.25 ± 0.5	3.50 ± 0.58	3.75 ± 0.5	4.25 ± 0.50	0.50 ± 0.58
	Osbone®	0.50 ± 0.58	3.00 ± 0.00	2.50 ± 1.00	3.25 ± 0.50	3.75 ± 0.50	0.50 ± 1.00
<b>12 MONTHS</b>	Control	0.50 ± 0.58	1.00 ± 0.82	4.00 ± 0.8	3.25 ± 0.50	3.75 ± 0.50	0.75 ± 0.96
	Bio-Oss®	0.50 ± 0.58	3.00 ± 0.00	3.00 ± 0.00	3.25 ± 0.50	3.75 ± 0.50	0.50 ± 0.58

**18 MONTHS**

Cerasorb® M	$0.75 \pm 1.50$	$3.00 \pm 0.00$	$2.50 \pm 1.00$	$3.50 \pm 0.58$	$4.00 \pm 0.82$	$0.75 \pm 1.50$
Osbone®	$1.25 \pm 1.26$	$3.00 \pm 0.00$	$2.50 \pm 1.00$	$3.25 \pm 0.50$	$3.75 \pm 0.50$	$0.50 \pm 1.00$
Control	$1.75 \pm 0.50$	$2.50 \pm 1.29$	$2.75 \pm 0.50$	$2.75 \pm 0.50$	$2.75 \pm 0.50$	$0.50 \pm 0.58$
Bio-Oss®	$1.00 \pm 0.00$	$3.50 \pm 0.58$	$3.00 \pm 0.00$	$2.50 \pm 1.00$	$3.50 \pm 0.58$	$1.50 \pm 1.00$
Cerasorb® M	$0.75 \pm 1.50$	$3.25 \pm 0.50$	$3.75 \pm 0.50$	$4.00 \pm 0.00$	$4.00 \pm 0.00$	$0.25 \pm 0.50$
Osbone®	$0.75 \pm 1.50$	$3.00 \pm 0.00$	$3.50 \pm 0.58$	$3.75 \pm 0.50$	$3.75 \pm 0.50$	$0.25 \pm 0.50$

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**SUPPLEMENTARY TABLE 3: RESULTS OF THE IMMUNOHISTOCHEMICAL ANALYSIS AND SCORING OF OSTEOGENIC MARKER EXPRESSION OF ALKALINE PHOSPHATASE**

<b>INTERVAL</b>	<b>Bone graft material</b>	<b>Osteoblast, Mean ± SD</b>	<b>Osteocyte, Mean ± SD</b>	<b>Fibroblastic cells, Mean ± SD</b>	<b>Fibrous matrix, Mean ± SD</b>	<b>Bone matrix, Mean ± SD</b>	<b>Osteoid, Mean ± SD</b>
<b>2 WEEKS</b>	Control	0.00 ± 0.00	0.00 ± 0.00	1.25 ± 0.50	2.75 ± 0.50	0.00 ± 0.00	0.00 ± 0.00
	Bio-Oss®	0.00 ± 0.00	0.00 ± 0.00	2.00 ± 1.15	2.00 ± 1.15	0.00 ± 0.00	0.00 ± 0.00
	Cerasorb® M	0.00 ± 0.00	0.00 ± 0.00	3.75 ± 0.50	3.50 ± 0.58	0.00 ± 0.00	0.00 ± 0.00
	Osbone®	0.00 ± 0.00	0.00 ± 0.00	2.75 ± 0.50	3.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00
<b>1 MONTH</b>	Control	0.00 ± 0.00	1.75 ± 1.50	2.75 ± 0.50	3.00 ± 0.00	1.75 ± 1.50	0.25 ± 0.50
	Bio-Oss®	0.25 ± 0.50	2.25 ± 1.50	3.00 ± 0.00	3.75 ± 0.05	2.25 ± 1.50	0.25 ± 0.50
	Cerasorb® M	0.25 ± 0.50	3.25 ± 0.50	3.25 ± 0.50	4.25 ± 0.50	4.00 ± 0.00	0.50 ± 1.00
	Osbone®	0.25 ± 0.50	3.00 ± 0.00	3.00 ± 0.00	3.75 ± 0.50	4.00 ± 0.00	0.25 ± 0.50
<b>3 MONTHS</b>	Control	0.00 ± 0.00	3.00 ± 0.00	2.50 ± 1.00	3.25 ± 0.50	2.50 ± 1.00	0.00 ± 0.00
	Bio-Oss®	1.00 ± 1.41	3.00 ± 0.00	3.25 ± 0.50	3.50 ± 0.58	3.25 ± 0.50	0.50 ± 0.58
	Cerasorb® M	0.50 ± 0.58	3.25 ± 0.50	2.25 ± 0.96	3.25 ± 0.50	3.25 ± 0.50	0.25 ± 0.50
	Osbone®	0.50 ± 0.58	3.25 ± 0.50	2.25 ± 0.96	3.00 ± 0.00	3.00 ± 0.00	0.25 ± 0.50
<b>6 MONTHS</b>	Control	0.25 ± 0.50	3.00 ± 0.00	2.50 ± 0.58	3.00 ± 0.00	2.25 ± 0.96	0.50 ± 0.58
	Bio-Oss®	0.50 ± 0.58	3.00 ± 0.00	3.25 ± 0.50	3.75 ± 0.50	3.00 ± 0.00	0.50 ± 0.58
	Cerasorb® M	0.00 ± 0.00	3.00 ± 0.00	3.00 ± 0.00	3.75 ± 0.50	3.00 ± 0.00	0.00 ± 0.00
	Osbone®	0.00 ± 0.00	3.00 ± 0.00	3.00 ± 0.00	3.25 ± 0.50	2.25 ± 0.50	0.00 ± 0.00
<b>12 MONTHS</b>	Control	0.50 ± 0.58	3.25 ± 0.50	2.50 ± 0.58	3.75 ± 0.50	3.75 ± 0.50	0.50 ± 0.58

**18 MONTHS**

Bio-Oss®	$0.25 \pm 0.05$	$2.50 \pm 1.00$	$3.00 \pm 0.00$	$2.25 \pm 1.50$	$2.75 \pm 1.26$	$0.50 \pm 0.58$
Cerasorb® M	$0.00 \pm 0.00$	$3.00 \pm 0.00$	$2.75 \pm 0.00$	$3.25 \pm 0.50$	$2.25 \pm 0.50$	$0.00 \pm 0.00$
Osbone®	$0.00 \pm 0.00$	$3.25 \pm 0.50$	$2.75 \pm 0.50$	$3.25 \pm 0.50$	$2.25 \pm 0.50$	$0.00 \pm 0.00$
Control	$0.50 \pm 0.58$	$3.25 \pm 0.50$	$3.25 \pm 0.50$	$2.75 \pm 0.50$	$3.75 \pm 0.50$	$0.25 \pm 0.50$
Bio-Oss®	$0.25 \pm 0.50$	$3.25 \pm 0.50$	$3.00 \pm 0.00$	$3.25 \pm 0.50$	$2.50 \pm 1.00$	$0.25 \pm 0.50$
Cerasorb® M	$0.75 \pm 0.50$	$3.00 \pm 0.00$	$3.25 \pm 0.50$	$3.25 \pm 0.50$	$3.00 \pm 0.82$	$0.00 \pm 0.00$
Osbone®	$0.00 \pm 0.00$	$3.00 \pm 0.00$	$2.75 \pm 0.50$	$3.25 \pm 0.50$	$3.25 \pm 0.50$	$0.00 \pm 0.00$

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**SUPPLEMENTARY TABLE 4: RESULTS OF THE IMMUNOHISTOCHEMICAL ANALYSIS AND SCORING OF OSTEOGENIC MARKER EXPRESSION OF TYPE I COLLAGEN**

<b>INTERVAL</b>	<b>Bone graft material</b>	<b>Osteoblast, Mean ± SD</b>	<b>Osteocyte, Mean ± SD</b>	<b>Fibroblastic cells, Mean ± SD</b>	<b>Fibrous matrix, Mean ± SD</b>	<b>Bone matrix, Mean ± SD</b>	<b>Osteoid, Mean ± SD</b>
<b>2 WEEKS</b>	Control	0.00 ± 0.00	0.00 ± 0.00	1.50 ± 0.58	2.50 ± 0.58	0.00 ± 0.00	0.00 ± 0.00
	Bio-Oss®	0.00 ± 0.00	0.00 ± 0.00	2.00 ± 1.15	2.75 ± 0.50	0.00 ± 0.00	0.00 ± 0.00
	Cerasorb® M	0.00 ± 0.00	0.00 ± 0.00	4.00 ± 0.00	4.50 ± 0.58	0.00 ± 0.00	0.00 ± 0.00
	Osbone®	0.00 ± 0.00	0.00 ± 0.00	3.00 ± 0.00	3.50 ± 0.58	0.00 ± 0.00	0.00 ± 0.00
<b>1 MONTH</b>	Control	0.00 ± 0.00	1.75 ± 1.50	3.00 ± 0.00	2.75 ± 0.50	1.50 ± 1.00	0.00 ± 0.00
	Bio-Oss®	0.25 ± 0.50	3.00 ± 0.00	3.00 ± 0.00	4.00 ± 0.00	3.00 ± 0.00	0.25 ± 0.50
	Cerasorb® M	0.00 ± 0.00	3.25 ± 0.50	3.00 ± 0.00	4.25 ± 0.50	3.25 ± 0.50	0.25 ± 0.50
	Osbone®	0.00 ± 0.00	3.25 ± 0.50	3.00 ± 0.00	3.75 ± 0.50	3.00 ± 0.00	0.25 ± 0.50
<b>3 MONTHS</b>	Control	0.00 ± 0.00	3.50 ± 0.58	2.50 ± 1.00	3.25 ± 0.50	3.50 ± 0.58	0.00 ± 0.00
	Bio-Oss®	1.00 ± 0.00	2.75 ± 0.50	3.00 ± 0.00	3.50 ± 0.58	3.00 ± 0.00	0.75 ± 0.50
	Cerasorb® M	0.50 ± 0.58	3.00 ± 0.00	3.00 ± 0.00	3.50 ± 0.58	3.25 ± 0.50	1.50 ± 1.73
	Osbone®	0.50 ± 0.58	3.00 ± 0.00	3.00 ± 0.00	3.25 ± 0.50	3.25 ± 0.50	1.25 ± 1.26
<b>6 MONTHS</b>	Control	0.75 ± 0.96	2.50 ± 1.00	2.50 ± 0.58	3.75 ± 0.50	3.50 ± 0.58	0.50 ± 0.58
	Bio-Oss®	0.50 ± 0.58	3.00 ± 0.00	3.50 ± 0.58	3.75 ± 0.50	3.25 ± 0.50	1.75 ± 1.50
	Cerasorb® M	0.00 ± 0.00	3.00 ± 0.00	2.00 ± 1.15	3.75 ± 0.50	3.50 ± 0.58	0.00 ± 0.00
	Osbone®	0.00 ± 0.00	2.75 ± 0.50	1.75 ± 1.50	3.75 ± 0.50	3.50 ± 0.58	0.00 ± 0.00
<b>12 MONTHS</b>	Control	0.50 ± 0.58	2.75 ± 0.50	3.00 ± 0.00	3.75 ± 0.50	3.00 ± 0.00	0.50 ± 0.58

**18 MONTHS**

Bio-Oss®	$0.50 \pm 0.58$	$3.25 \pm 0.50$	$3.00 \pm 0.00$	$3.50 \pm 0.58$	$4.00 \pm 0.00$	$0.50 \pm 0.58$
Cerasorb® M	$0.00 \pm 0.00$	$3.25 \pm 0.50$	$2.75 \pm 0.50$	$3.75 \pm 0.50$	$3.75 \pm 0.50$	$0.00 \pm 0.00$
Osbone®	$0.00 \pm 0.00$	$3.25 \pm 0.50$	$2.75 \pm 0.50$	$3.00 \pm 0.00$	$3.75 \pm 0.50$	$0.00 \pm 0.00$
Control	$0.50 \pm 0.58$	$3.25 \pm 0.50$	$3.25 \pm 0.50$	$3.50 \pm 0.58$	$3.50 \pm 0.58$	$0.25 \pm 0.50$
Bio-Oss®	$0.25 \pm 0.50$	$3.25 \pm 0.50$	$3.00 \pm 0.00$	$3.25 \pm 0.50$	$3.75 \pm 0.50$	$0.00 \pm 0.00$
Cerasorb® M	$0.00 \pm 0.00$	$3.50 \pm 0.58$	$3.875 \pm 0.96$	$3.00 \pm 1.41$	$3.25 \pm 0.96$	$0.00 \pm 0.00$
Osbone®	$0.00 \pm 0.00$	$3.00 \pm 0.00$	$3.75 \pm 0.96$	$3.25 \pm 0.96$	$3.25 \pm 0.96$	$0.00 \pm 0.00$

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**SUPPLEMENTARY TABLE 5: RESULTS OF THE IMMUNOHISTOCHEMICAL ANALYSIS AND SCORING OF OSTEOGENIC MARKER EXPRESSION OF BONE SIALOPROTEIN**

<b>INTERVAL</b>	<b>Bone graft material</b>	<b>Osteoblast, Mean ± SD</b>	<b>Osteocyte, Mean ± SD</b>	<b>Fibroblastic cells, Mean ± SD</b>	<b>Fibrous matrix, Mean ± SD</b>	<b>Bone matrix, Mean ± SD</b>	<b>Osteoid, Mean ± SD</b>
<b>2 WEEKS</b>	Control	0.00 ± 0.00	0.00 ± 0.00	1.50 ± 0.58	2.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00
	Bio-Oss®	0.00 ± 0.00	0.00 ± 0.00	1.50 ± 1.00	2.25 ± 0.96	0.00 ± 0.00	0.00 ± 0.00
	Cerasorb® M	0.00 ± 0.00	0.00 ± 0.00	2.50 ± 1.00	3.50 ± 0.58	0.00 ± 0.00	0.00 ± 0.00
	Osbone®	0.00 ± 0.00	0.00 ± 0.00	1.75 ± 1.26	3.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00
<b>1 MONTH</b>	Control	0.00 ± 0.00	2.25 ± 1.50	2.50 ± 1.00	2.75 ± 1.26	1.75 ± 1.50	0.00 ± 0.00
	Bio-Oss®	0.25 ± 0.50	3.00 ± 0.00	3.00 ± 0.00	4.00 ± 0.00	3.00 ± 0.00	0.25 ± 0.50
	Cerasorb® M	0.00 ± 0.00	4.00 ± 0.00	3.75 ± 0.50	4.00 ± 0.00	3.50 ± 1.00	0.25 ± 0.50
	Osbone®	0.00 ± 0.00	3.75 ± 0.50	3.50 ± 0.58	4.00 ± 0.00	3.00 ± 0.82	0.30 ± 0.50
<b>3 MONTHS</b>	Control	0.00 ± 0.00	2.50 ± 1.00	2.00 ± 1.15	3.00 ± 0.00	2.50 ± 1.00	0.00 ± 0.00
	Bio-Oss®	0.25 ± 0.50	3.00 ± 0.00	3.50 ± 0.58	4.00 ± 0.00	4.00 ± 0.00	0.25 ± 0.50
	Cerasorb® M	0.50 ± 0.58	3.75 ± 0.50	3.00 ± 0.00	3.00 ± 0.00	3.75 ± 0.50	0.50 ± 0.58
	Osbone®	0.50 ± 0.58	3.50 ± 0.58	3.00 ± 0.00	3.00 ± 0.00	3.25 ± 0.50	0.50 ± 0.58
<b>6 MONTHS</b>	Control	0.25 ± 0.50	3.00 ± 0.00	2.50 ± 0.58	3.00 ± 0.00	2.75 ± 0.50	0.50 ± 0.58
	Bio-Oss®	0.50 ± 0.58	3.00 ± 0.00	3.25 ± 0.05	3.50 ± 0.58	3.00 ± 0.00	1.00 ± 0.00
	Cerasorb® M	0.50 ± 0.58	3.00 ± 0.00	3.00 ± 0.00	3.75 ± 0.50	3.75 ± 0.50	0.50 ± 0.58
	Osbone®	1.25 ± 0.50	3.00 ± 0.00	3.00 ± 0.00	3.50 ± 0.58	3.50 ± 0.58	0.75 ± 0.50
<b>12 MONTHS</b>	Control	0.50 ± 0.58	2.75 ± 0.50	3.00 ± 0.00	3.00 ± 0.00	3.00 ± 0.00	0.50 ± 0.58
	Bio-Oss®	0.50 ± 0.58	3.50 ± 0.58	3.25 ± 0.50	3.75 ± 0.50	3.75 ± 0.05	0.50 ± 0.58



**18 MONTHS**

Cerasorb® M	0.00 ± 0.00	3.25 ± 0.50	3.50 ± 0.58	3.75 ± 0.50	3.50 ± 0.58	1.00 ± 1.15
Osbone®	0.00 ± 0.00	3.25 ± 0.50	3.00 ± 0.82	3.00 ± 0.82	3.00 ± 0.00	0.00 ± 0.00
Control	0.50 ± 0.58	3.00 ± 0.82	3.00 ± 0.00	3.25 ± 0.50	3.00 ± 0.00	0.25 ± 0.50
Bio-Oss®	0.00 ± 0.00	3.50 ± 0.58	3.25 ± 0.50	3.50 ± 0.58	4.00 ± 0.00	0.00 ± 0.00
Cerasorb® M	0.00 ± 0.00	3.75 ± 0.50	3.00 ± 0.00	4.00 ± 0.00	3.75 ± 0.50	0.00 ± 0.00
Osbone®	0.00 ± 0.00	3.50 ± 0.58	2.75 ± 0.05	4.00 ± 0.00	3.50 ± 0.58	0.00 ± 0.00

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