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(54) Title: COMPOSITION FOR FILLING BONE DEFECTS

(57) Abstract: The invention is directed toward an improved formable bone composition for application to a bone defect site to promote new bone growth at the site which comprises a new bone growth inducing compound of demineralized lyophilized allograft bone particles ranging from about 100 to 850 microns. The bone particles are mixed in an excipient carrier combination containing carboxymethylcellulose, sodium hyaluronate, and a sodium phosphate saline buffer, the carboxymethylcellulose component of the carrier ranging from about 5.0 to about 11.0% of the composition and the sodium hyaluronate component of the carrier ranging from about 0.3 to about 0.7% of the composition, the composition having a pH between 6.5 -7.5.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/192263 A1 (MERBOTH BARBARA L [US] ET AL) 19 December 2002 (2002-12-19) claims 1-14	1-21
A	WO 02/28332 A1 (MUSCULOSKELETAL TRANSPLANT [US]) 11 April 2002 (2002-04-11) claims 1-3	1-21
A	WO 2004/011053 A1 (DENTSPLY INT INC [US]) 5 February 2004 (2004-02-05) claims 1-4 examples 6, 7	1-21

Further documents are listed in the continuation of Box C.

See patent family annex.

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Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2002192263 A1	19-12-2002	AU 2003237198 A1	12-12-2003
		CA 2461691 A1	04-12-2003
		EP 1505943 A1	16-02-2005
		NZ 533008 A	28-03-2008
		WO 03099236 A1	04-12-2003
WO 0228332 A1	11-04-2002	AU 782504 B2	04-08-2005
		AU 9453601 A	15-04-2002
		CA 2357980 A1	03-04-2002
		EP 1263365 A1	11-12-2002
		US 6458375 B1	01-10-2002
WO 2004011053 A1	05-02-2004	AU 2003254211 A1	16-02-2004
		CA 2496449 A1	05-02-2004
		EP 1525011 A1	27-04-2005
		JP 2005538757 T	22-12-2005