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(54) Title: PRODUCTION OF OSTEOCLASTS FROM ADIPOSE TISSUES

(57) Abstract: The present invention provides methods for growing and inducing osteoclastic differentiation of adipose tissue derived cells. The present invention further provides methods for administering such adipose tissue derived cells to a subject. The present invention further provides methods for treating diseases, disorders, and conditions associated with aberrant regulation or numbers of osteoclasts.



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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US06/20535

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC: A01N 63/00( 2007.01)

USPC: 424/93.7

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 424/93.7

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 practicable, search terms used)

Please See Continuation Sheet

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,555,374 B1 (GIMBLE et al.) 29 April 2003 (29.04.2003), abstract, summary of the invention, example 5, and claims, in particular	1-2
X	US 6,777,231 B1 (KATZ et al.) 17 August 2004 (17.08.2004), abstract, brief summary of the invention, columns 5-6, examples 1, 5, and claims in particular.	1-2
X	ZUK P.A. et al. Human adipose tissue is a source of multipotent stem cells. Molecular Biology of the Cell. December 2002, Vol 13, No. 12, pages 4279-4295, especially page 4279, Materials & Methods, 4283-4286, 4290-4291, and Future Directions.	1-2
X	THOLPADY S.S. et al. Mesenchymal stem cells from rat visceral fat exhibit multipotential differentiation in vitro. The Anatomical Record Part A. May 2003, Vol. 272A, No.1, pages 398-402, especially abstract, pages 399-400.	1
A	GAFNI Y. et al. Stem cells as vehicles for orthopedic gene therapy. Gene Therapy. February 2004, Vol.11, No. 4, pages 417-426, especially pages 417, 419, 420-421, and figure 1.	1-47

Further documents are listed in the continuation of Box C.

See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"X"

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Date of the actual completion of the international search

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## C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2004/0229351 A1 (RODRIGUEZ et al.) 18 November 2004 (18.11.2004), abstract, and claims.	1-47

**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/US06/20535

Continuation of B. FIELDS SEARCHED Item 3:

EAST: USPAT, USOCR, US-PGPUB, JPO, EPO, DERWENT

STN: CAPLUS, BIOSIS, MEDLINE

SEARCH STRATEGIES:

(stem? or progenit? or strom? or mesenchym?) and cell? and (adipose or fat?)

differentiat? and (osteoclast? or osteogen? or bone)

RANKL or CSF or TNF or TGF or dexameth?

(osteopetros? or bone or dental?) and (diseas? or disorder or condition?)