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(54) Title: COMPOSITIONS AND METHODS FOR SKIN LIGHTENING

(57) Abstract: The invention relates to compounds and methods for inhibiting production and function of tyrosinase in the skin of a mammal. The invention further relates to compounds and methods for inhibiting darkening of the skin of a mammal, as well as lightening the skin of a mammal and reducing pigmentation in the skin of a mammal.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 07/21288

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61Q 19/02 (2008.01)

USPC - 424/400, 424/62

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)

USPC: 424/400, 424/62

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)

USPTO WEST (PGPUB, EPAB, JPAB, USPT), Google Scholar, Google Patent. Search Terms Used: inhibit\$ adj tyrosinase, depig\$, meglumine or methyl-D-glutamine, skin or mammal or human, hydroquinone or glucosamine or N-acetylglucosamine, methylamino and xylitol or DYN30 or DYN-30, deoxy, carrier, adm\$.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X - Y	US 2006/0110439 A1 (Tobia et al.) 25 May 2006 (25.05.2006) entire document especially para [0087]; [0119]; [0121]; [0129]; [0143]; [0149]; [0151]; [0162]- [0163]; [0170]	1-6, 13-18, 20-25, 27-32 ----- 7-12, 19, 26, and 33-39
X	US 6,219,575 B1 (Nemati) 17 April 2001 (17.04.2001) esp. col 4 ln 57 ? col 5 ln 8.	40-41
Y	US 6,653,315 B2 (Tulshian et al.) 25 November 2003 (25.11.2003) especially col 5, ln 30-40; col 8, ln 03-10	7-12
Y	US 2004/0265252 A1 (Orlow et al.) 30 December 2004 (30.12.2004) especially para [0131]-[0133]	33 and 35-39
Y	Mattila, et al. "Effects of a Long-Term Dietary Xylitol Supplementation on Collagen Content and Fluorescence of the Skin in Aged Rats," Gerontology, Vol. 51, No. 3, 2005, pg.166-169. Abstract.	19, 26, and 34
A	US 2006/0110439 A1 (Tobia et al.) 25 May 2006 (25.05.2006) entire document	19, 26 and 34

☐ Further documents are listed in the continuation of Box C.

* Special categories of cited documents:

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

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

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"P" document published prior to the international filing date but later than the priority date claimed

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later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

28 January 2008 (28.01.2008)

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