

Title (en)
LONG ACTING CONSERVED NATURAL FUNCTIONAL GROUPS CURCUMIN

Title (de)
LANGWIRKENDES KURKUMIN MIT KONSERVIERTEN NATÜRLICHEN FUNKTIONELLEN GRUPPEN

Title (fr)
CURCUMINE COMPORTANT DES GROUPES FONCTIONNELS NATURELS CONSERVÉS, À ACTION PROLONGÉE

Publication
EP 2365956 A2 20110921 (EN)

Application
EP 08878223 A 20081120

Priority
EG 2008000044 W 20081120

Abstract (en)
[origin: WO2010057503A2] Curcumin is a component of turmeric, a yellow spice from the rhizome of the herb *Curcuma longa* L. (Zingiberaceae), that is widely used as a food flavoring and coloring agent. Curcumin has a long history of medicinal use for a wide variety of medical conditions. It is insoluble in water but soluble in ethanol, alkalis, glacial acetic acid and chloroform. Oral administration is well tolerated, but bioavailability is very low. Less than 1% of the curcumin makes its way to the bloodstream, where the liver rapidly destroys most of it. In general three different approaches were used to improve curcumin bioavailability; namely: additives, microemulsions and chemical derivatives, but none proved to overcome the problem. Additives and microemulsion have the hazard of other drug interactions and all chemical derivatives were made through the use of the curcumin natural functional groups required for full biological activity, (biochemical, physiological and pharmacological potencies). Long acting, conserved natural functional group curcumin, of free water solubility, easy digestibility, free intestinal absorption, long serum half-life should help getting the utmost possible beneficial effects of this historical, albeit promising treatment of several acute and chronic illnesses. Natural pure water insoluble curcumin has been converted to a novel, water soluble conserved natural functional group derivatives, with no change to its original active functional natural molecular chemical groups necessary for full biochemical, physiological and pharmacological potencies previously reported for natural curcumin. The novel curcumin derivatives were characterized by IR Spectroscopy, GC/MS, NMR, EM, TLC, Gel Filtration, Continuous Flow Electrophoresis and Isoelectric Focusing whenever applicable. Laboratory animal studies of the novel curcumin derivatives proved that they conserved all the natural curcumin functionality in addition to the novel free water solubility, easy digestibility, free intestinal absorption, long serum half-life besides improved original biochemical, physiological and pharmacological potencies of natural curcumin towards certain pre-studied effects in humans and experimental animal models e.g. erectile dysfunction, diabetes mellitus.

IPC 8 full level
C07C 49/255 (2006.01); **A61K 31/655** (2006.01); **C07C 245/08** (2006.01); **C07K 16/06** (2006.01)

CPC (source: EP)
A61K 31/655 (2013.01); **C07C 49/255** (2013.01); **C07C 245/08** (2013.01)

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

DOCDB simple family (publication)
WO 2010057503 A2 20100527; **WO 2010057503 A3 20100715**; EP 2365956 A2 20110921; EP 2365956 A4 20120725

DOCDB simple family (application)
EG 2008000044 W 20081120; EP 08878223 A 20081120