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(54) Title: ANNATTO EXTRACT COMPOSITIONS, INCLUDING GERANYL GERANIOLS AND METHODS OF USE

(57) Abstract: Annatto extract composition (AEC), including cis and trans geranyl geraniols (GG) and tocopherol-free C-5 unsubstituted tocotrienols (T3), increases the de novo synthesis of intermediate isoprenoid and distal protein products, including endogenous coenzyme Q10 (CoQ10), dolichols (DL) and all subsequent GG-prenylated and DL-glycosylated proteins, including GG-porphyrinated hemes. This intermediate and distal product replenishment by AEC reverses maladies of myotoxicity (of both drug and non-drug origins), including maladies that affect the muscle, kidney, eye, GI tract and skin, nerve, blood, and CoQ10-related syndromes of energetics and LDL protection. AEC anabolically increases the endogenous de novo CoQ10 synthesis via GG elongation/prenylation of side-chain and conversely CoQ10 catabolically increases the endogenous de novo GG synthesis via beta-oxidation of CoQ10. Also, such AEC decreases de novo synthesis and disposal of triglycerides (TG) in humans via PPAR activation and SREBP deactivation. Such drop in TG by AEC reverses maladies of insulin resistance (IR) and metabolic syndrome (MS), pre-diabetes, diabetes and diabetes-related cardiovascular diseases (CVD). GG activates PPAR and down regulates SREBP transcription factors. This AEC, containing GG, inhibits cancer growth whether or not GG involvement in protein prenylation is required.



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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)

U.S. : 424/725

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)

WEST, STN

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,084,292 A (VAN DORT et al.) 28 January 1992 (28.01.1992), example IX.	1-29

Further documents are listed in the continuation of Box C.

See patent family annex.

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