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549/21, 22; 514/436

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(57) **ABSTRACT**

This invention comprises administering to a human or animal in need of treatment an effective amount of an antioxidant lipoic acid derivative and/or pharmaceutically acceptable salts and solvates thereof for the treatment or prevention of pathological (inflammatory, proliferative and degenerative diseases, e.g. diabetes mellitus, atherosclerosis, Alzheimer's disease and chronic viral diseases) and non-pathological (e.g. skin aging and wrinkle formation) conditions caused by oxidative damage. Methods of synthesizing novel antioxidant lipoic acid derivatives and their use in preventing or treating diseases or conditions caused by oxidative stress and other free radical mediated conditions are described. Another aspect of this invention is the use of these antioxidant compositions for the protection of skin from damage caused by ultraviolet radiation and dessication, and to provide improved skin feel by desquamating, cleansing and clarifying the skin. The compositions described in this invention increase cellular viability of epidermal cells, promote cytoprotection, and decrease the production of inflammatory mediators such as inflammatory cytokines in these cells. The antioxidant compositions are incorporated into sunscreen products, soap, moisturizing lotions, skin toners, and other skin care products.

5 Claims, No Drawings