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(54) **METHOD AND COMPOSITION FOR TREATING AND PREVENTING RETINAL DAMAGE**

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(52) **U.S. Cl.** **514/438**; 514/558

(58) **Field of Search** 514/357, 518, 514/558, 438

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,691,379	A	*	11/1997	Ulrich et al.	514/557
5,747,545	A	*	5/1998	Lipton	514/742
5,972,977	A	*	10/1999	Narducy et al.	514/357
6,048,846	A	*	4/2000	Cochran	514/168
6,103,756	A	*	8/2000	Gorsek	514/458
6,107,315	A	*	8/2000	Carney et al.	514/345

OTHER PUBLICATIONS

Stoyanovsky et al, Eye Res., vol. 14, #3, pp. 181–189 (abstreact), Mar. 1995.*

Kahler et al, Z. Gesamte. Inn. Med., vol. 48, #5, pp. 223–232 (abstract), May 1993.*

* cited by examiner

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(57) **ABSTRACT**

The use of dihydrolipoic acid (DEL) and alpha-lipoic acid to treat and prevent damage to the retina arising from physical forces such as exposure to laser beams, and to compositions containing phenyl nitrones and DHL or alpha-lipoic acid as neuroprotective agents.

18 Claims, No Drawings