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Therefore, Shis United States

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Katherine Kelly Vidal

DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE



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(54) COMBINATION OF RHODIOLA AND ASTRAGALUS FOR THE TREATMENT OF NEURODEGENERATIVE DISEASES

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None

See application file for complete search history.

(56) References Cited

U.S. PATENT DOCUMENTS

2008/0081046	A1*	4/2008	Olalde	
2008/0118583	A1*	5/2008	Olalde Rangel	424/769 A61K 36/00
2009/0110674	Δ1*	4/2009	Loizou	424/728
2007/0110074	A1	4/2007	Loizou	424/94.2

FOREIGN PATENT DOCUMENTS

CN	1981857 A	*	6/2007
CN	1981857 A		6/2007
CN	102940787 A		2/2013
KR	20030007105 A		1/2003

OTHER PUBLICATIONS

Huang (CN 1981857A, Aug. 12, 2020 IDS, machine translation of Description.*

Morgan, M., Bone, K., Rhodiola rosea—Rhodiola, Medi Herb—a phytotherapist's perspective, No. 47 Feb. 2005.*

"Héritez de la nature toute sa jeunesse . . . " or "Inherit from Nature all its Youth . . . ", Composition d'ADN Téloméractives ©, (2017) http://www.adn-astragale.fr/astragale.

International Search Report received in PCT/FR2019/050342, dated May 16, 2019.

Nabavi et al., "*Rhodiola rosea* L. and Alzheimer's Disease: From Farm to Pharmacy", Phytotherapy Research, (2016), vol. 30, pp. 532-539

Xia et al., "Neuroprotective Effects of Astragaloside IVon Parkinson Disease Models of Mice and Primary Astrocytes", Experimental and Therapeutic Medicine, (2017), vol. 14, pp. 5569-5575.

"Héritez de la nature toute sa jeunesse . . . " Composition d'ADN Téloméractives ©, (2017) http://www.adn-astragale.fr/astragale. Haiyan et al., "Effect of Astragaloside IV on Neural Stem Cell Transplantation in Alzheimer's Disease Rat Models." Evidence-Based Complementary and Alternative Medicine. 2016. 8 pages.

* cited by examiner

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(57) ABSTRACT

The present invention relates to a product containing an extract of *Rhodiola* and an extract of *Astragalus* as products to be combined for simultaneous administration, separately or staggered over time, in the treatment of a neurodegenerative disease, and in particular for the treatment of Alzheimer's disease and Parkinson's disease.

12 Claims, 8 Drawing Sheets