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**United States Patent** [19][11] **Patent Number:** 5,736,529

Adams et al.

[45] **Date of Patent:** Apr. 7, 1998[54] **USE OF NAD-RELATED COMPOUNDS IN THE TREATMENT OF NEURAL TRAUMA TO INHIBIT NEURODEGENERATION**[75] Inventors: **James David Adams**, La Crescenta; **Lori Kathleen Klaidman**, Santa Monica; **Suman Kumar Mukherjee**, Los Angeles, all of Calif.[73] Assignee: **Neurocal International Inc.**, Mountain View, Calif.[21] Appl. No.: **624,291**[22] Filed: **Mar. 22, 1996**[51] **Int. Cl.**<sup>6</sup> ..... **A61K 31/455**[52] **U.S. Cl.** ..... **514/46; 514/45**[58] **Field of Search** ..... 536/26.24; 514/46, 514/44[56] **References Cited**

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[57] **ABSTRACT**

The present invention is directed to methods for reducing the degree of neural degeneration in a mammal due to acute neural trauma by the administration of a NAD-related compound and for kits useful in the method. NAD-related compounds include quinolinic acid; quinolinic acid ribonucleotide; nicotinamide; nicotinic acid; nicotinic acid ribonucleotide; nicotinic acid ribonucleotide, reduced form; nicotinamide ribonucleotide; nicotinamide ribonucleotide, reduced form; nicotinic acid adenine dinucleotide; nicotinic acid adenine dinucleotide, reduced form; nicotinamide adenine dinucleotide (NAD); nicotinamide adenine dinucleotide phosphate (NADP); nicotinamide adenine dinucleotide, reduced form (NADH); and nicotinamide adenine dinucleotide phosphate, reduced form (NADPH) and pharmaceutically acceptable salts thereof.

**10 Claims, 5 Drawing Sheets**