



US005814656A

United States Patent [19]

[11] **Patent Number:** **5,814,656**

Saavedra et al.

[45] **Date of Patent:** **Sep. 29, 1998**

[54] **SELECTIVE PREVENTION OF ORGAN INJURY IS SEPSIS AND SHOCK USING SELECTIVE RELEASE OF NITRIC OXIDE VULNERABLE ORGANS**

[52] **U.S. Cl.** **514/426**; 514/237.8; 514/255; 514/315; 514/611; 546/244; 548/557; 564/81; 564/113; 544/164; 544/382

[75] Inventors: **Joseph E. Saavedra**, Thurmont; **Larry K. Keefer**, Bethesda, both of Md.

[58] **Field of Search** 514/237.8, 255, 514/315, 611, 426; 544/164, 382; 546/244; 548/557; 564/81, 113

[73] Assignee: **The United States Of America, as represented by the Department Of Health And Human Services**, Washington, D.C.

[56] **References Cited**

U.S. PATENT DOCUMENTS

5,366,997 11/1994 Keefer et al. 514/611

Primary Examiner—Raymond Henley, III
Attorney, Agent, or Firm—Leydig, Voit & Mayer, Ltd.

[21] Appl. No.: **942,896**

[57] **ABSTRACT**

[22] Filed: **Oct. 2, 1997**

A method for the treatment of mammalian tissue injured or at risk of injury during sepsis or shock including the administration to a mammal a diazeniumdiolate which releases a therapeutically effective amount of nitric oxide sufficient to protect the tissue from sepsis- or shock-induced injury.

Related U.S. Application Data

[62] Division of Ser. No. 509,558, Jul. 31, 1995, Pat. No. 5,714,511.

9 Claims, 4 Drawing Sheets

[51] **Int. Cl.⁶** **A61K 31/40**; A61K 31/535; A61K 31/495; A61K 31/445