United States Patent [19]

Widra

[11] **Patent Number: 4,570,629**

[45] **Date of Patent: Feb. 18, 1986**

[54] **HYDROPHILIC BIOPOLYMERIC COPOLYELECTROLYTES, AND BIODEGRADABLE WOUND DRESSING COMPRISING SAME**

[75] Inventor: **Abe Widra**, River Forest, Ill.

[73] Assignee: **University of Illinois Foundation**, Urbana, Ill.

[21] Appl. No.: **534,486**

[22] Filed: **Sep. 21, 1983**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 358,994, Mar. 17, 1982, abandoned.

[51] **Int. Cl.**[4] **A61M 5/20**

[52] **U.S. Cl.** **128/156**; 604/368

[58] **Field of Search** 128/155, 156; 604/368

[56] **References Cited**

U.S. PATENT DOCUMENTS

3,483,289	12/1969	Michaelson et al.	424/36
3,655,416	4/1972	Vinson et al.	424/36
4,060,081	11/1977	Yannas et al.	128/156
4,066,512	1/1978	Lai et al.	424/2
4,074,366	2/1978	Capozza	3/1
4,178,361	12/1979	Cohen et al.	424/81
4,195,077	3/1980	Marsh et al.	424/359
4,264,493	4/1981	Battista	424/359
4,287,177	9/1981	Nakashima et al.	424/DIG. 13
4,344,967	8/1982	Easton et al.	424/359
4,347,234	8/1982	Wahlig et al.	424/36
4,378,017	3/1983	Kosugi et al.	424/36

Primary Examiner—C. Fred Rosenbaum
Assistant Examiner—Sherri E. Vinyard
Attorney, Agent, or Firm—Barbara A. Shimei

[57] **ABSTRACT**

Hydrophilic biopolymeric copolyelectrolytes comprising (a) a water-soluble linear anionic protein polyelectrolyte component derived from keratin and (b) a water-soluble linear cationic biopolymer polyelectrolyte component derived from at least one biopolymer selected from the group consisting of collagen and a glucosaminoglycan. Hydrogel membranes formed from the copolyelectrolytes are useful as biodegradable dressings for denuded tissue wound sites.

39 Claims, No Drawings