

[54] **HYDROGELS CAPABLE OF SUPPORTING CELL GROWTH**

[75] **Inventors:** Carl Franzblau, Newton; Barbara A. Faris, Squantum; Linda Civerchia-Perez, Norwood, all of Mass.

[73] **Assignee:** Trustees of Boston University, Boston, Mass.

[21] **Appl. No.:** 558,977

[22] **Filed:** Dec. 7, 1983

**Related U.S. Application Data**

[63] Continuation of Ser. No. 228,133, Jan. 26, 1981, abandoned.

[51] **Int. Cl.<sup>4</sup>** ..... C12N 5/00; C12R 1/91

[52] **U.S. Cl.** ..... 435/240; 435/948

[58] **Field of Search** ..... 435/240, 241, 244, 948; 252/316

[56] **References Cited**

**U.S. PATENT DOCUMENTS**

4,035,330	7/1977	Schultz	260/29.6 R
4,223,984	9/1980	Miyata et al.	351/160 H
4,252,421	2/1981	Foley, Jr.	351/162
4,260,228	4/1981	Miyata	351/160 H
4,264,155	4/1981	Miyata	351/160 H
4,264,493	4/1981	Battista	260/117
4,268,131	5/1981	Miyata et al.	351/160 H

**FOREIGN PATENT DOCUMENTS**

WO83/00339 2/1983 PCT Int'l Appl. .... 523/105

**OTHER PUBLICATIONS**

Kleinman et al., "Preparation of Collagen Substrates for Cell Attachment; Effect of Collagen Concentration and Phosphate Buffer", *Analytical Biochemistry* 94 pp. 308-312 (1979).

Carbonetto et al., "Nerve Fiber Growth on Defined Hydrogel Substrates", *Science* 216 pp. 897-899 (1982).  
Civerchia-Perez, "Use of Collagen-Hydroxyethylmethacrylate Hydrogels for Cell Growth", *Proceedings of the National Academy of Sciences* 77(4) pp. 2064-2068 (1980).

Faris et al., "Effect of Protein-Hydroxyethylmethacrylate Hydrogels on Cultured Endothelial Cells", *Experimental Cell Research* 143 pp. 15-25 (1983).

*Primary Examiner*—Thomas G. Wiseman

*Assistant Examiner*—John E. Tarca

*Attorney, Agent, or Firm*—Hamilton, Brook, Smith & Reynolds

[57] **ABSTRACT**

A method of growing anchorage-dependent cells is disclosed in which a substrate comprising a hydrogel is employed. The hydrogel is formed from an aqueous solution gelled with a crosslinked polymer of a hydrophilic monomer and includes a macromolecule capable of supporting cell growth.

**3 Claims, 3 Drawing Figures**