

United States Patent [19]

Balazs et al.

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[45] **Date of Patent:** **Dec. 15, 1987**

- [54] **CHEMICALLY MODIFIED HYALURONIC ACID PREPARATION AND METHOD OF RECOVERY THEREOF FROM ANIMAL TISSUES**
- [75] **Inventors:** **Endre A. Balazs, Ft. Lee; Adolf Leshchiner; Adelya Leshchiner, both of Fairview, all of N.J.; Philip Band, Brooklyn, N.Y.**
- [73] **Assignee:** **Biomatrix, Inc., Ridgefield, N.J.**
- [21] **Appl. No.:** **710,929**
- [22] **Filed:** **Mar. 12, 1985**
- [51] **Int. Cl.⁴** **C08B 37/08; C08F 8/00; C12P 19/04; C12R 1/46**
- [52] **U.S. Cl.** **536/55.1; 435/267**
- [58] **Field of Search** **435/267; 536/55.1**

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[57] **ABSTRACT**

Disclosed is hylan, a chemically modified hyaluronic acid preparation characterized by the presence of small amounts (0.005–0.05% by weight) of aldehyde cross-linking groups covalently bonded to the hyaluronic acid molecular chains. Also disclosed is a method of obtaining hylan comprising treating hyaluronic acid in situ in animal tissues containing same with a treatment mixture including a reagent (typically an aldehyde) which is reactive towards hyaluronic acid and the proteins contained in the animal tissue.

27 Claims, 8 Drawing Figures

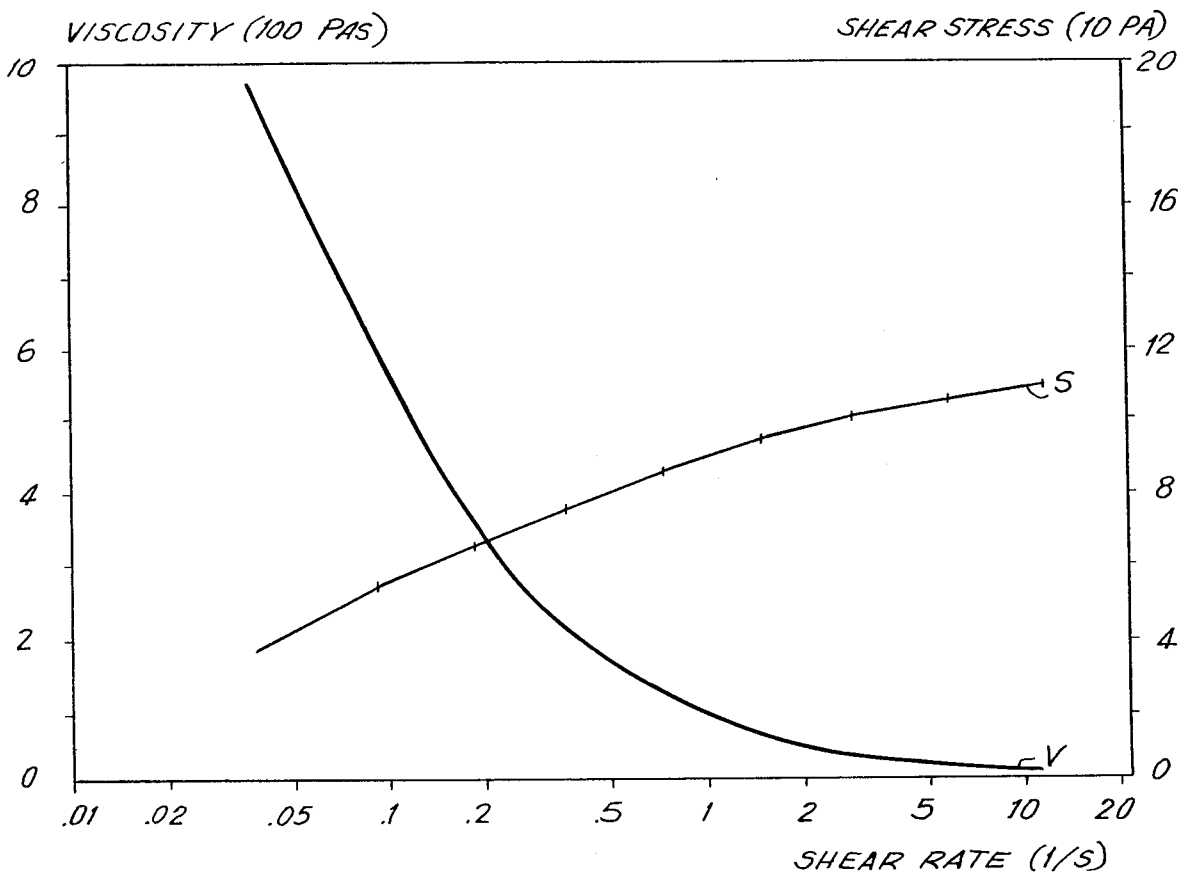


FIG. 1

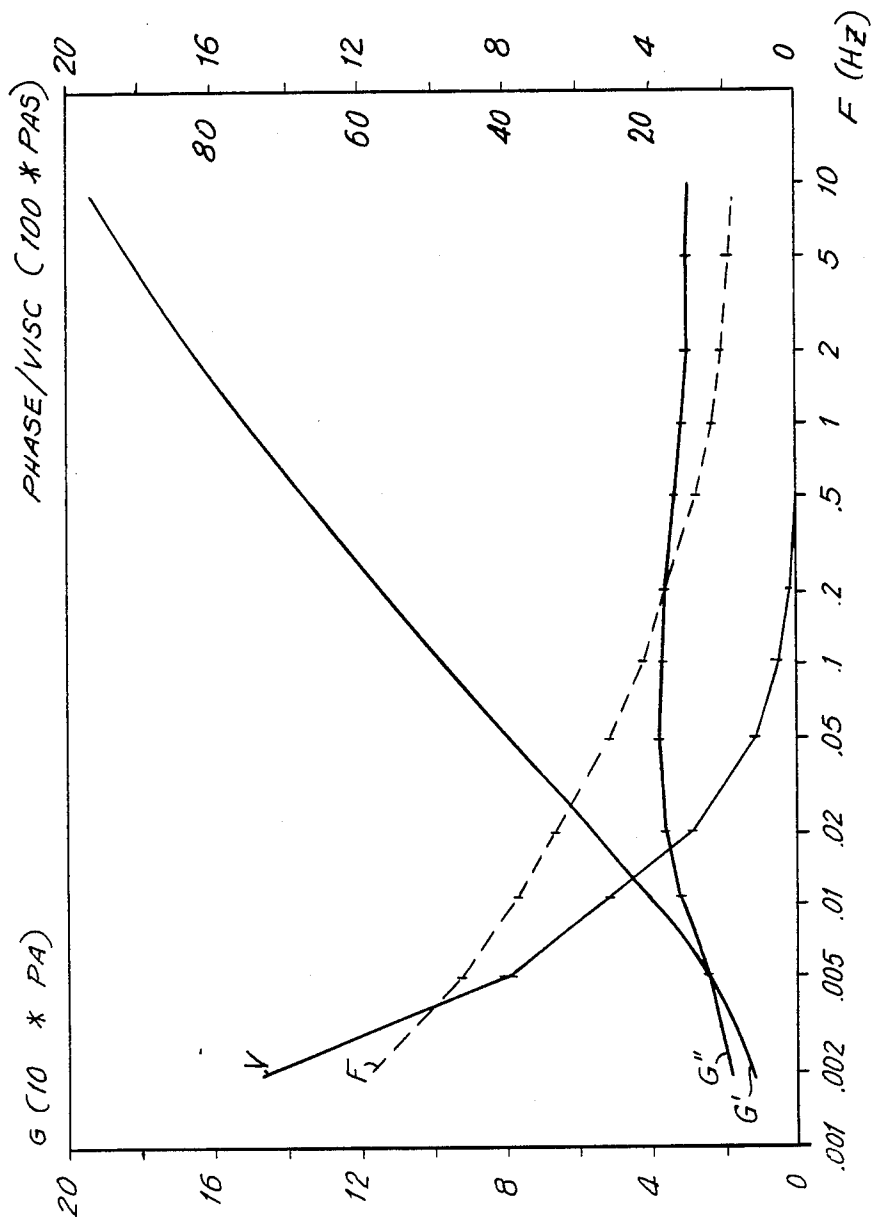


FIG. 2

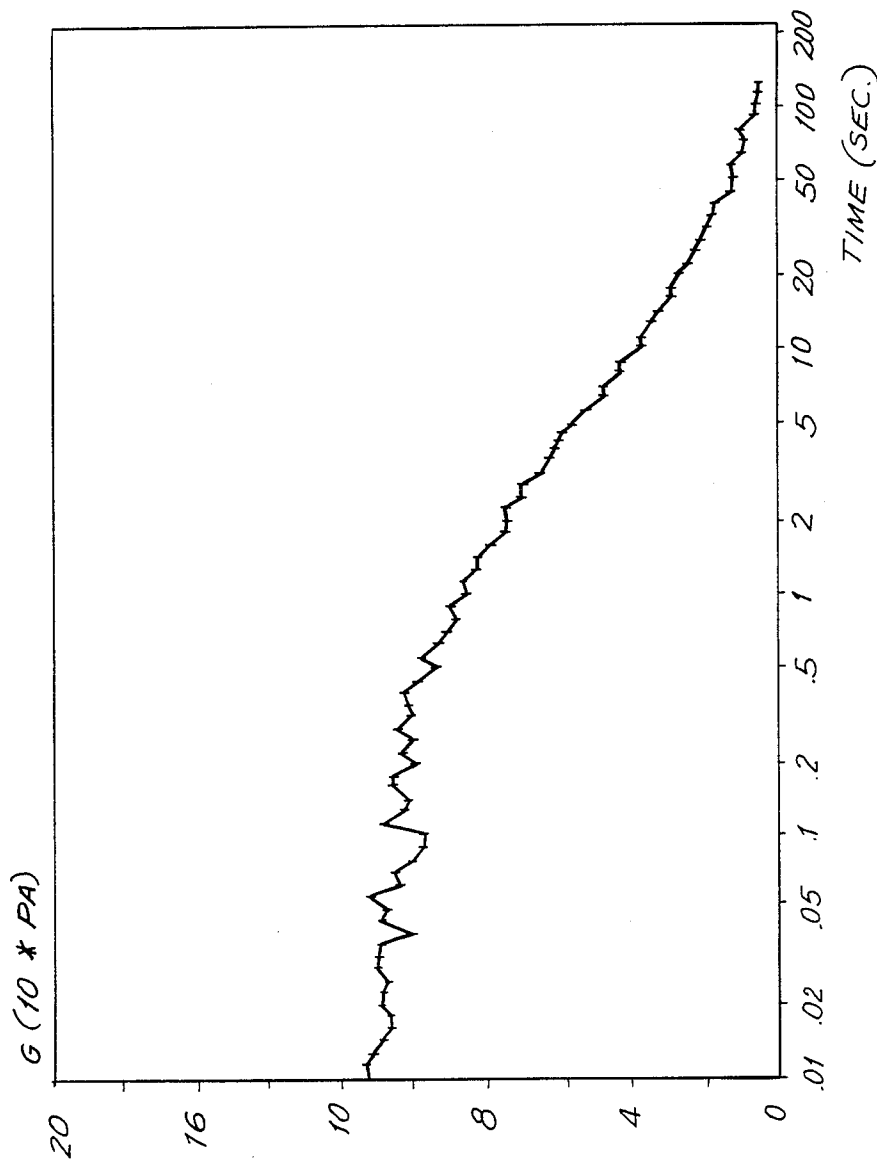


FIG. 3

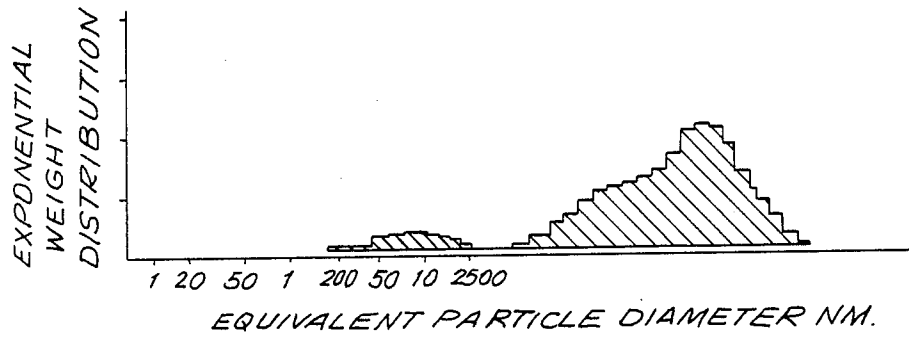


FIG. 4

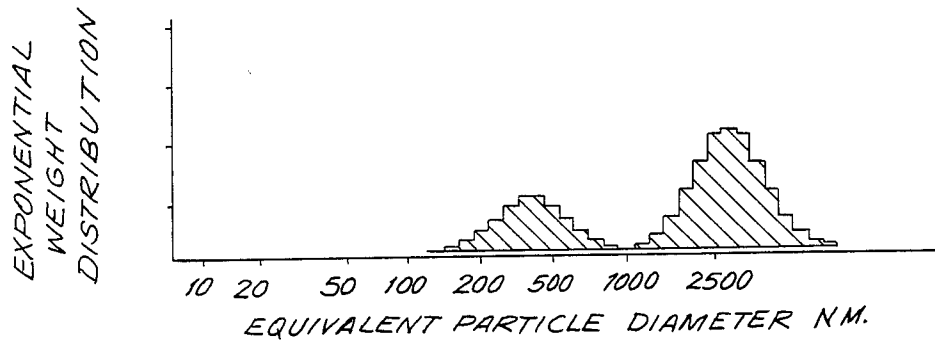


FIG. 5

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