

[54] PROCESS FOR THE INDUSTRIAL PREPARATION OF COLLAGENOUS MATERIALS FROM HUMAN PLACENTAL TISSUES, HUMAN COLLAGENOUS MATERIALS OBTAINED AND THEIR APPLICATION AS BIOMATERIALS

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[56] References Cited

U.S. PATENT DOCUMENTS

3,314,861 4/1967 Fujii 435/69
3,637,642 1/1972 Fujii 260/123.7 X
3,738,913 6/1973 Johnsen et al. 435/69
4,021,522 5/1977 Daniel 260/123.7 X
4,097,234 6/1978 Sohde et al. 260/123.7 X
4,140,537 2/1979 Luck et al. 260/123.7 X
4,210,721 7/1980 Monsheimer et al. 435/69

4,285,986 1/1980 Cioca et al. 260/123.7 X
4,293,647 10/1981 Monsheimer et al. 435/69

OTHER PUBLICATIONS

Die Angewandte Makromolekulare Chemie, Band 82, No. 1276, Nov. 1979, Riemschneider et al., pp. 171-186.
Chem. Abstracts, vol. 83, No. 5, 1975, 39071n, Henkel et al.
Biochemistry, vol. 18, No. 14, Jul. 1979, pp. 3089-3097, Kresina et al.
Chem. Abstracts, vol. 68, 1968, 9425d, Stainsby et al.
Hoppe-Seyler's Z. Physiol. Chem., Bd. 356, S. 567-575, May 1975, Henkel, Isolierung und Eigenschaften eines nach Alaki-Vorbehandlung loeslichen Arterienkollagens.

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[57] ABSTRACT

This process of preparation consists in subjecting said placental tissue after pressing, grinding and washing in a neutral and acid medium to a treatment in alkaline medium at a temperature less than or equal to 10° C. and in then subjecting the portions of collagen solubilized during this treatment, as well as the collagen solutions resulting from an eventual subsequent treatment for the solubilization, at least partial, of the insoluble residue, to purification by chromatography on an anion exchange resin, at a temperature less than or equal to 10° C., followed with fractional precipitation of the collagens by salts in acid medium.

The human collagenous materials obtained can be used as biomaterials in biotechnology and in pharmacy and are perfectly immunologically innocuous for the human species.

5 Claims, No Drawings