



US005756067A

United States Patent [19]

Redgrave et al.

[11] Patent Number: **5,756,067**

[45] Date of Patent: **May 26, 1998**

[54] LABELLED DIAGNOSTIC COMPOSITIONS AND METHOD OF THEIR USE

[75] Inventors: **Trevor G. Redgrave; Ian J. Martins**, both of Nedlands, Australia

[73] Assignee: **Peptide Delivery Systems Pty Ltd**, Subiaco, Australia

[21] Appl. No.: **648,080**

[22] PCT Filed: **Oct. 28, 1994**

[86] PCT No.: **PCT/AU94/00663**

§ 371 Date: **May 8, 1996**

§ 102(e) Date: **May 8, 1996**

[87] PCT Pub. No.: **WO95/13096**

PCT Pub. Date: **May 18, 1995**

[30] Foreign Application Priority Data

Nov. 8, 1993 [AU] Australia PM2286

[51] Int. Cl.⁶ **A61K 51/00; A61M 36/14**

[52] U.S. Cl. **424/1.81; 424/1.11; 424/1.65**

[58] Field of Search **424/1.11, 1.65, 424/1.69, 1.81, 9.1, 9.2; 436/71; 552/544**

[56] References Cited

U.S. PATENT DOCUMENTS

3,894,844	7/1975	Pinto et al.	436/71
4,039,285	8/1977	Teipel	436/71
4,676,974	6/1987	Hofmann et al.	424/9.1
4,753,788	6/1988	Gamble	424/1.11
4,772,549	9/1988	Frossard	435/6
4,933,157	6/1990	Counsell et al.	424/1.11
4,938,947	7/1990	Nicolau	
5,135,848	8/1992	Abel et al.	435/7.21
5,320,968	6/1994	Seman	436/71
5,362,649	11/1994	Schwertner	436/71
5,432,058	7/1995	Lange, III et al.	424/1.11
5,496,735	3/1996	Schwertner	436/71

FOREIGN PATENT DOCUMENTS

0028917	5/1981	European Pat. Off.	
0084439	7/1983	European Pat. Off.	
0182131	5/1986	European Pat. Off.	
0190050	8/1986	European Pat. Off.	
204137	9/1986	Japan	

WO8607540	12/1986	WIPO	
9110128	7/1991	WIPO	
WO9320800	10/1993	WIPO	
9513096	5/1995	WIPO	

OTHER PUBLICATIONS

Mortimer et al (1995). Journal of Biological Chemistry, vol. 270 Nov. 48, pp. 28767-28776. Intracellular Localization and Metabolism of Chylomicron Remnants in the Livers of Low Density Lipoprotein Receptor-deficient Mice and ApoE-deficient Mice.

Redgrave et al (1995). Journal of Lipid Research, vol. 36, pp. 2670-2675. "Measurement of Expired Carbon Dioxide to Assess the Metabolism of Remnant Lipoproteins".

Oliveira et al (1988). Biochimica et Biophysica Acta, vol. 958, pp. 211-217. "Competition Between Chylomicrons and Their Remnants for Plasma Removal: A Study with Artificial Emulsion Models of Chylomicrons".

Lenzo et al (1988). Biochimica et Biophysica Acta, vol. 960, pp. 111-118. "Effects of Phospholipid Composition on the Metabolism of Triacylglycerol, Cholesteryl Ester and Phosphatidyl Choline from Lipid Emulsions Injected Intravenously in Rats".

Primary Examiner—John Kight

Assistant Examiner—Dameron Jones

Attorney, Agent, or Firm—Fredrikson & Byron, P.A.

[57] ABSTRACT

This invention relates to a labelled diagnostic composition for testing presence of or propensity for atherosclerosis and coronary artery disease and the like comprising components which mimic essential features of an exogenous lipoprotein transport particle, said composition being capable of metabolism by normal physiological pathways such that at least one labelled metabolite is detectable in the blood or bodily waste of a patient being tested. Furthermore, it also relates to a method of determining the presence of or propensity for atherosclerosis or coronary artery disease and the like in a patient requiring such determination comprising administering to said patient a labelled diagnostic composition which mimics essential features of an exogenous lipoprotein transport particle, and measuring the quantity of labelled metabolite in the bodily waste or blood of said patient so as to determine the quantity of labelled diagnostic composition successfully metabolised by said patient.

12 Claims, 2 Drawing Sheets