

**P003** Isolation of highly purified chylomicron particles in less than one hour

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Chylomicrons (CMs) are the major source of dietary triglyceride in the circulation. Accumulating evidence suggests that raised levels may play a role in the pathogenesis of atherosclerosis.

CM particles were isolated by a 2-step rapid ultracentrifugation procedure requiring less than one hour, the first step required ultracentrifugation at 100,000rpm for 45 minutes and the second step 50,000rpm for 7 minutes. Their purity was assessed by gel electrophoresis and the composition measured for lipid and apoprotein content. CM oxidation potential was also assessed. Once established the method tracked CM clearance, following the ingestion of a fatty meal.

Electrophoresis demonstrated pure CM particles. Triglyceride, standardised to apo B<sub>48</sub> and apo E was  $21.35 \pm 3.51$  and  $41.83 \pm 8.38$  mg triglyceride/mg apoprotein, respectively. The CM particles were the most resistant of the lipoprotein particles to oxidation. Clearance experiments demonstrated that peak chylomicronaemia occurred at 4 hours, and the postprandial phase lasted between 2–6 hours.

Overall this methodology produced pure CM particles in less than one hour, a much faster time than other published methods and produced sufficient concentrations to allow their full characterisation. Due to the rapid nature of this method it would be appealing for use in a wide range of research and clinical applications.