

**P004** A new reproducible assay for measuring apolipoprotein B-48 (apoB-48)

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ApoB-48 is associated with chylomicrons and their remnants. In the pre-prandial state its concentration is very low and is increased in response to a fat meal. SDS-PAGE methods for the measurement of apoB-48 concentration are time consuming, insensitive and semi-quantitative. We have investigated 2 published ELISA methods but could not achieve the reported sensitivity and found that a constituent(s) in plasma interfered with apoB-48 recovery in these assays.

We have therefore developed a new competitive ELISA method for measuring apoB-48 concentration which has 0.032 mg/l level of sensitivity, CV 6%. This assay uses a specific antibody raised in rabbits to the C-terminal hexapeptide of the apoB-48 molecule. We have increased the sensitivity of a previously published method, by a factor of 4 using a biotinylated hexapeptide. The sensitivity is enhanced by the affinity of a biotin moiety on the antigen to bind to conjugated streptavidine-alkaline phosphatase. The enzyme activity is then detected by the intensity of colour produced in the presence of the substrate, phenolphthalein monophosphate di (cyclohexammonium) salt.

We aim to use this assay to accurately quantify apoB-48 levels in patients with and without hypertriglyceridaemia to determine whether this protein provides a good marker of cardiovascular risk.