

Effect of blood collection and processing on radioimmunoassay results for apolipoprotein A-1 in plasma

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We studied the effects of different procedures of blood collection and processing on quantification of apolipoprotein A-1 (apoA-1) by radioimmunoassay. ApoA-II and apolipoproteins did not cross react in the same assay. Analytical recovery of apoA-I at different doses was complete. ApoA-I concentration in pooled human plasma was stable for as long as a year stored at -70 degrees Celsius. Inter- and intra- assay CVs averaged about 7% and 5%, respectively. We collected blood from 20 subjects into tubes containing EDTA alone or EDTA with antiproteolytic agents, then separated the plasma either immediately or after 3 h at 4 degrees Celsius. We tested various formulations of antibacterials, antiproteolytic, and anti-oxidant agents added to plasma, measuring apoA-I concentrations either within 24 h of blood collection or after storage of plasma for 6 weeks at -70 degrees Celsius. No significant difference in the concentrations of apoA-I was found in these specimens, regardless of the conditions studied. We conclude that addition of protective agents other than EDTA is not necessary during blood collection or specimen processing for reliable quantification of apoA-I in fresh or frozen human plasma.

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