Human Plasma Very Low-Density Lipoproteins are Stabilized by Electrostatic Interactions and Destabilized by Acidic pH

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SUPPLEMENTAL DATA

Figure S1. Destabilizing effects of TRIS on VLDL assembly. VLDL samples containing 0.1 mg/mL protein at pH 7.7 in TRIS buffer (2, 3 or 5 mM as indicated) with or without 25 mM NaCl were heated at a constant rate of 11 ^{o}C/h. Thermal denaturation of VLDL, which involves particle fusion and coalescence into lipid droplets, was monitored by turbidity at 220 nm. Increasing TRIS concentration from 2-5 mM shifts VLDL denaturation to lower temperatures by about 10 ^{o}C, indicating a large destabilizing effect of TRIS.

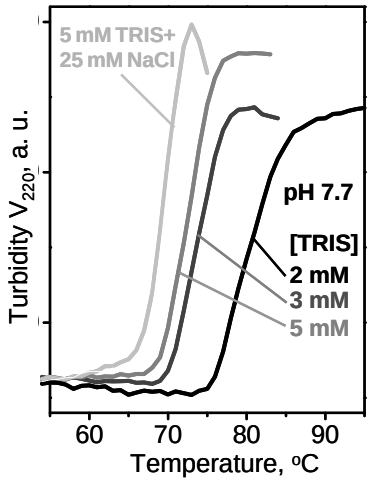

Figure S2. Salt has relatively little effect on LDL stability. Human plasma LDL samples (3.5 mg/mL protein in 10 mM Na phosphate buffer, pH 7.5) containing 0 or 500 mM NaCl were heated and cooled at a constant rate of 11 ^{o}C/h. Thermal denaturation, which involves LDL fusion and coalescence into lipid droplets, was monitored by turbidity. The results showed a small ~3 ^{o}C reduction in the apparent transition temperature T_m upon increasing NaCl concentration from 0-500 mM. This and other similar experiments suggested little changes in LDL stability upon increasing Na salt concentration.