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## ABSTRACTS OF THE 57TH SCIENTIFIC SESSIONS

THE EFFECT OF A WATER-SOLUBLE TRIS-GALACTO-  
SIDE TERMINATED CHOLESTEROL DERIVATIVE ON  
THE CATABOLISM OF LOW DENSITY LIPOPROTEIN

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Tris(galactosyloxy-methyl) aminomethane is coupled to cholesterol using glyceryl and succinyl as intermediate hydrophilic spacer moieties. The resulting triantennary galactose terminated cholesterol derivative (tris-gal-cho) dissolves easily in water and when added to lipoproteins becomes immediately incorporated. After injection of tris-gal-cho loaded LDL in rats, the particle is rapidly cleared from the circulation (within 2 min) and recovered in the liver ( $84.4 \pm 1.5\%$  of the injected dose vs for untreated LDL  $2.1 \pm 0.2\%$ ). The liver association of tris-gal-cho LDL is blocked by preinjection of N-acetylgalactosamine ( $0.5 \text{ m mol/rat}$ ) but not influenced by N-acetylglucosamine ( $0.5 \text{ m mol/rat}$ ). Both in parenchymal and non-parenchymal liver cells the uptake of tris-gal-cho LDL is followed by a rapid degradation of the LDL apolipoprotein in the lysosomes (complete within 30 min after injection). It is concluded that tris-gal-cho addition to LDL leads to a markedly increased catabolism of LDL (up to 40 fold) by the liver. This increased catabolism is mediated by a galactose-specific recognition site. The ability to increase in vivo the catabolism of LDL with tris-gal-cho might have implications for treating hypercholesterolemia.