Producing labeled mouse triglyceride-rich lipoproteins

Technology #2507

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Large Quantities of Mouse Lipoprotein Complexes Produced for Study of Lipid Metabolism Lipid transport and metabolism in the body are important towards the understanding of fat storage/handling and delivery of lipid-soluble drugs. One particular difficulty in the study of blood metabolism of lipid compounds is the unavailability of large amounts of plasma lipid material.

The technology provides a novel method of producing large quantities of mouse lipoprotein complexes, which could be applied in the study of lipid metabolism and preclinical research.

Specific Lipoproteins Produced in LPL-Deficient Mice and Purified from Plasma Specifically, the technology demonstrates the following: • Development of a lipoprotein lipase gene (LPL) deficient mouse, with severely decreased metabolism of lipoproteins, which leads to 10-fold increase in plasma lipoprotein levels • Specific lipoproteins can be produced either by prolonged fasting (VLDL) or prolonged feeding (chylomicrons), and be purified from the mouse plasma • Specific lipid particles can be labeled by targeted injection of markers through gastric gavage (to label VLDL), intravenous injection (to label LDL), or injection of other labeled fatty acids or lipids

Applications: • Lipid Drug Preclinical Research: Large amounts of purified / labeled lipid complexes can be used in the study of lipid metabolism and lipid soluble compounds, and pharmaceutical research relevant to the design and test of lipid drugs • Animal Model: The LPL-deficient mouse with high levels of lipids can be used as an animal model for accelerated/early atherosclerotic disease

Advantages: • Cost effectiveness in producing large amounts of lipid complex • Generation of Specific and Novel Tagged Lipids

Patent Status: Copyright

Licensing Status: Available for Licensing and Sponsored Research Support


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