

## Review

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# The influence of *SLCO1B1* (OATP1B1) gene polymorphisms on response to statin therapy

S P R Romaine<sup>1</sup>, K M Bailey<sup>1</sup>, A S Hall<sup>2</sup> and A J Balmforth<sup>1</sup>

<sup>1</sup>Division of Cardiovascular and Diabetes Research, Leeds Institute of Genetics, Health and Therapeutics, University of Leeds, Leeds, UK

<sup>2</sup>Multidisciplinary Cardiovascular Research Centre (MCRC), Leeds Institute of Genetics, Health and Therapeutics, University of Leeds, Leeds, UK

Correspondence: SPR Romaine, Division of Cardiovascular and Diabetes Research, Leeds Institute of Genetics, Health and Therapeutics, The LIGHT Laboratories, University of Leeds, Leeds LS2 9JT, UK. E-mail: [S.Romaine04@leeds.ac.uk](mailto:S.Romaine04@leeds.ac.uk)

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## Abstract

Statins (3-hydroxy-3-methylglutaryl coenzyme A reductase inhibitors) are well established in the treatment of hypercholesterolaemia and the prevention of coronary artery disease. Despite this, there is wide inter-individual variability in response to statin therapy, in terms of both lipid-lowering and adverse drug reactions. The major site of statin action is within hepatocytes and recent interest has focussed on genetic variation in hepatic influx and efflux transporters for their potential to explain these differences. In this review we explore current literature regarding the pharmacokinetic and pharmacodynamic influence of the common c.388A>G and c.521T>C single-nucleotide polymorphisms (SNPs) within the solute carrier organic anion transporter 1B1 (*SLCO1B1*) gene, encoding the organic anion transporter polypeptide 1B1 (OATP1B1) influx transporter. We discuss their potential to predict the efficacy of statin therapy and the likelihood that patients will experience adverse effects.

Keywords: cholesterol, myopathy, polymorphism, *SLCO1B1*, statin, transporter

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