Real-Time PCR for SLCO1B1 GENOTYPING

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Bio Products

- validated on most common Real-Time Instruments
- fast and accurate results
- reduced health care costs

Statin-induced myopathies avoided by SLCO1B1 genotyping

Optimization of the Statin dose for personalized therapy

Statins are among the most widely used drugs worldwide and are prescribed for the prevention of coronary heart disease. During 2011-12 about one quarter of adults in the USA aged 40 and over reported using a statin medication in the past 30 days. Statins are excreted from the body over the liver. The membrane transporter OATP1B1 (gene name: *SLCO1B1*) is mainly responsible for the uptake of statins from the blood into hepatocytes. Reduced uptake activity of OATP1B1 caused by the single nucleotide polymorphism T521C (V174A) in the *SLCO1B1* gene leads to increased plasma concentrations of statins. Therefore, the risk of statin-induced side-effects is also increased. Myopathy is the common side-effect of statins but in the worst case a life-threatening rhabdomyolysis can develop. Among Caucasians, the T521C variant is quite frequent. Approximately one third of patients would benefit from a statin dosage adjusted to the *SLCO1B1* genotype. Therefore, the American Society for Clinical Pharmacology and Therapeutics recommends *SLCO1B1* genotyping in patients undergoing statin therapy.

The *SLCO1B1* genotype can be assessed from a blood sample by molecular diagnostics using our quick and simple BioPro SLCO1B1 Real-Time PCR test.

SLCO1B1 Introduction

The SLCO1B1 genotyping Kit from BioProducts is a Real-Time PCR kit for determining the presence of a V174A mutation in the SLCO1B1 gene.

The determination of the SLCO1B1 genotype on position 174 is of great importance especially for patients undergoing statin therapy and influences significantly the risk of statin-induced side-effects, for example myopathies or rhabdomyolysis.

Technical Information

Number of tests per package:	24
Sample Material:	genomic DNA isolated from whole blood by standard procedures
Test reaction volume:	20 µl
Method of detection:	Detection of a present V174A mutation by two distinct hydrolysis probes spedific for wild type and V174A mutation
Test principle:	Real-Time PCR end-point analysis
Positive Control:	DNA fragments with homozygous wild type, heterozygous and homozygous SLCO1B1 V174A genotypes
Compatible Instruments:	Common Real-Time PCR cyclers with analysis function for end-point genotyping experiments and equipped with FAM and VIC/JOE/HEX fluorescence channels. LC480. ABI, Rotor-Gene.

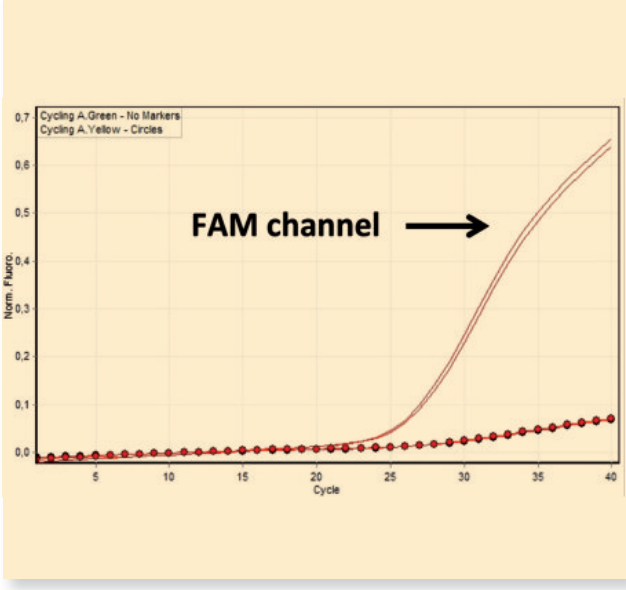

Fig. 1 Amplification plot of V174A mutation, homozygous.
A significant increase of fluorescence is only detected in the green channel (FAM) (specific for V174A mutation).

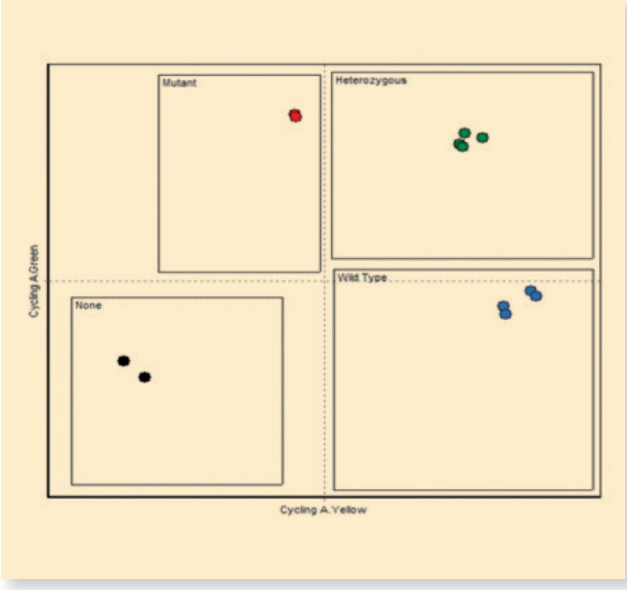

Fig. 2 Scatterplot diagram of SLCO1B1 V174A genotyping analysis.
The different groups of genotypes can be clearly distinguished. Red: Homozygous mutation, green: heterozygous, blue: homozygous wild type, black: negative control

Order Information

Product Name	Description	Cycler	Size	Cat. No.
BioPro SLCO1B1	Real-Time Kit for V174A mutation in the SLCO1B1 gene	Commercial cycler equipped with FAM and VIC/JOE/HEX fluorescence channels, LC480, ABI, Rotor-Gene	24	BP201

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