

S002 QPCR and the state of the art

Ian Kavanagh

*Thermo Fisher Scientific, Abgene House, Epsom, UK.
KT19 9AP*

Real-time or Quantitative PCR (QPCR) is one of the most powerful and sensitive gene analysis techniques available and is used extensively in industrial, academic and diagnostic labs. The technique has a wide range of applications in many biological disciplines, including gene expression research, DNA genotyping or mutation studies and microbial detection. The increase in the use of this method over the last 10 years has reached the point where QPCR is now commonplace in most biochemistry research labs and the demand is now for higher throughput and a reduction in the total time of the procedure.

Whilst there are optimised kits available for QPCR, there are still many choices a user must make in order to establish a viable procedure and factors such as RNA quality, primer design or choice of detection chemistry can significantly affect the sensitivity and efficiency of a reaction. An overview of these factors and choices will be discussed in order to demonstrate the power of this technique, but also highlight areas where there needs to be improvements and in addition, identify some of the novel applications that are emerging to make the most of this extensive technique.