Applied Biosystems 7500 Fast Real-Time PCR System

The recently-acquired 7500 fast real-time PCR machine has proved a versatile and cost effective platform for real-time detection and quantification of nucleic acid sequences.
The machine is in 96-well format and the 5-colour detection system enables the use of a wide range of fluorophores. 10 dyes are calibrated as standard: FAM, SYBR Green I, VIC, JOE, NED, TAMRA, Cy3, ROX, Texas Red, and Cy5. Alternative dyes can be calibrated if required.
A particular advantage of the 7500 fast is its ability to carry out gene expression analysis in just 40 minutes using TaqMan probe-based detection. The 7500 fast is compatible with Applied Biosystems' range of pre-designed and pre-validated TaqMan gene expression assays, requiring minimal optimisation, but is also fully compatible with custom-designed assays using TaqMan or SYBR green detection.
As well as absolute and relative quantification studies, the system also supports SNP genotyping by allele-specific PCR or end-point analysis.
Since installation in August, around 40 runs per month have been carried out, successfully using TaqMan MGB, TaqMan Fam/Tamra, SYBR green and TaqMan Fam/Vic multiplex chemistries.
As a guide, current costs including plastics, mastermixes and primer/probe sets are as follows:

ABI gene expression assays:	33p per reaction	or	£32.00 per plate
Power SYBR green:	13p per reaction	or	£12.82 per plate
SNP genotyping assays:	48p per reaction	or	£45.93 per plate

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