Product Specifications

Thermo Scientific ABsolute Blue high performance QPCR master mixes incorporate an inert blue dye to significantly enhance the contrast between the reagent and plastic, making verification of master mix dispensing quick, easy and foolproof.

Thermo Scientific ABsolute™ Blue Master Mixes

Optimized QPCR

Sensitivity of a QPCR reaction depends on having a highly optimized system which includes plates, seals and master mixes that have been developed specifically for QPCR. Our consumables have been optimized to ensure the highest level of fluorescent transmission for maximum sensitivity and reproducibility.

ABsolute Clarity

Inert blue dye for easy visualization of your QPCR reaction.

ABsolute Performance

High performance QPCR mix for ultimate sensitivity and consistency.

ABsolute Flexibility

Master mixes are compatible with probes or SYBR® Green chemistry

ABsolute Sensitivity

The combination of Thermo-Start™, a chemically modified *Taq* DNA polymerase and dTTP increases reaction sensitivity and specificity.

ABsolute Versatility

ABsolute Blue QPCR Master Mix is compatible with most major QPCR platforms.

Thermo Scientific ABsolute Blue Master Mixes

ABsolute Blue is a range of high performance master mixes specially formulated to achieve the most consistent and reproducible QPCR data across all QPCR platforms. Like all our ABsolute QPCR mixes, proprietary additives give enhanced and consistent end point readings as well as low Ct values (Fig. 1). All mixes contain Thermo Scientific Thermo-Start™ hot-start *Taq* polymerase, for increased sensitivity, and contain dTTP for increased reaction efficiency and sensitivity (low Ct).

Uniquely, ABsolute Blue incorporates an inert dye to significantly enhance the contrast between reagent and plastic, making verification of master mix dispensing quick, easy and foolproof. This is particularly important for users of opaque white reaction plates and tubes, where although recognized as giving superior QPCR results, traditional colorless reagents are harder to visualize. With ABsolute Blue, a simple glance ensures that the correct amount of master mix has been added.

ABsolute Blue Master Mixes are ideal for QPCR analysis in molecular biology applications, including gene expression and SNP typing.

Fig. 2: ABsolute Blue aliquoted in natural polypropylene plate for easy visualization.

ABsolute Visibility

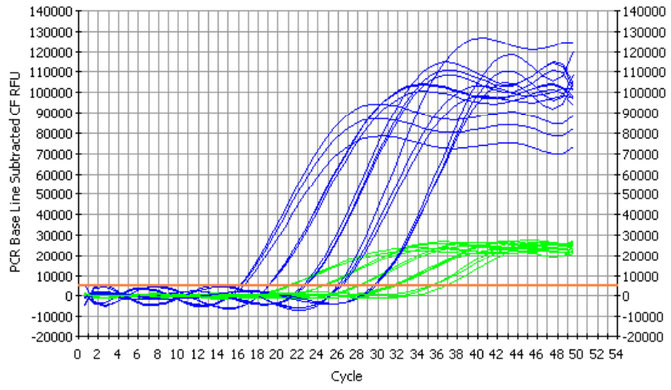
One of the issues facing QPCR users is ensuring that the correct amount of master mix is added to the reaction. When the amount of aliquoted master mix differs between replicates it will introduce variability into the data.

ABsolute Blue QPCR Master Mixes overcome this problem. They use an inert blue dye, which does not effect the QPCR reaction, to significantly enhance the contrast between reagent and plastic. The blue color offers an immediate check that a well has not been skipped or mis-aliquoted when dispensing manually (Fig. 2). Also, a scan across the strip or plate is especially useful for a rapid validity check when using an automated dispensing system, where variation in color may indicate a blockage in one or more of the dispensing channels.

ABsolute Consistency

A significant increase in consistency is seen when using ABsolute Blue QPCR Master Mixes and white plates.

Fig. 1: Shows an iQ BioRad QPCR cycler amplification/cycle graph of a 295bp target of the ß-Actin gene via SYBR® Green chemistry using a ten-fold dilution series of human genomic DNA (200ng-200pg) in triplicate reactions comparing ABsolute Blue QPCR Master Mix (Blue) and Competitor SYBR® Green QPCR Master Mix (Green).



ABsolute Blue generates higher end point values and lower Ct values than the competition.

The Advantage Is Clear

ABsolute Efficiency

Most master mixes use dUTP in conjunction with Uracil-N-Glycosylase (UNG) to remove any amplicon carry-over contamination from previous reactions. UNG degrades dUTP containing template which forces the *Taq* polymerase to move slowly along the template, which increases incorporation mistakes and decreases the overall efficiency of the reaction.

Thermo Scientific master mixes use only dTTP, a naturally occurring base which is more readily incorporated into the amplicon. Its incorporation into master mixes increases the reaction efficiency by approximately 5% and reduces the reaction time.

ABsolute White

The use of clear plastic consumables allows fluorescent signal to pass through the well wall and hit the Peltier block. Inconsistencies in the Peltier block reduce the reflected signal, which is also refracted as it passes back through the clear plastic. This means that variations between replicates may be due to this inefficient reflection/refraction of the signal rather than any true differences between replicates (Fig. 3 & Fig. 4).

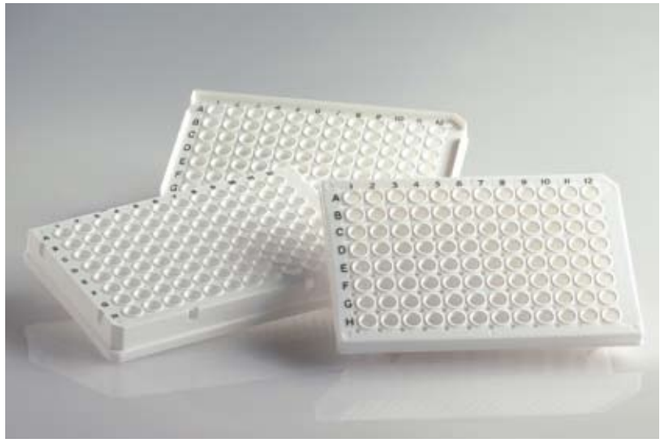


Fig. 3: White plates increase fluorescent transmission to lower reaction variability.

Thermo Scientific opaque white polypropylene plastics reflect the fluorescent signal back to the detector more efficiently than clear plastics. More efficiently, in fact, than any other color - including white plastics from other manufacturers. The result is significantly improved sensitivity and consistency between wells.

ABsolute Integrity

A seal that allows for high fluorescence transmission is required to ensure the maximum amount of fluorescence can be detected by the QPCR system. Thermo Scientific QPCR specific seals ensure this high level of detection every time. This gives scientists the highest seal integrity ensuring that there is no sample evaporation while achieving maximum fluorescent transmission (Fig. 5).

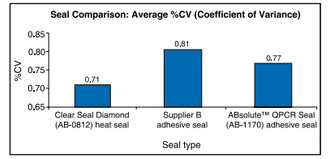
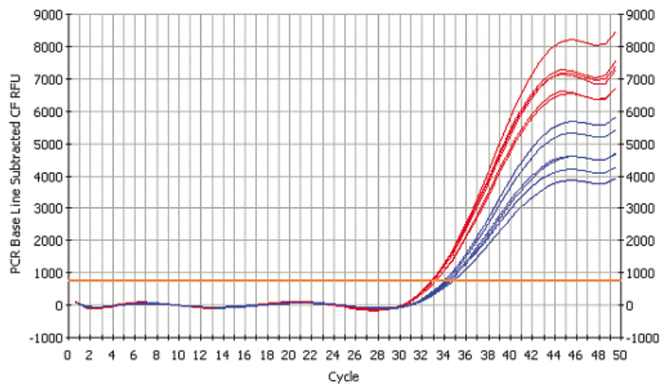


Fig. 5: QPCR trial run to compare variance values. Data shown is the average %CV for three dilution series: 1 in 10, 1 in 100 and 1 in 1000.

ABsolute Excellence

Compare ABsolute Blue QPCR Master Mix with the competition and a clear winner emerges. Call your local sales representative for more information.

Fig. 4: Shows GAPDH amplification using 2ng Human genomic DNA. SYBR® Green Mix in natural plates (Blue) and in white plates (Red).



White plate QPCR data points are more consistent than clear plate data points (lines super-imposed on each other).

Compatible QPCR cyclers for Thermo Scientific ABsolute Blue QPCR Master Mixes:

QPCR Cycler	+ ROX Vial	Incl. ROX	Low ROX	SYBR® Green + ROX Vial	SYBR® Green ROX	SYBR® Green Low ROX	SYBR® Green Fluorescein
ABI PRISM®							
7000		●			●		
7300		●			●		
7500			●			●	
7700		●			●		
7900/7900HT		●			●		
Bio-Rad							
iCycler™	●						●
MyiQ™	●						●
iQ™ 5	●			●			
Opticon™/2	●			●			
Chromo 4™	●			●			
MiniOpticon	●			●			
Stratagene							
Mx4000™	●		●	●		●	
Mx3000™/3005™	●		●	●		●	
Techne							
Quantica™	●			●			
Cepheid							
SmartCycler™	●			●			
Corbett							
Rotor-Gene™	●			●			
Roche							
Lightcycler® 480	●			●			
Eppendorf							
Realplex	●			●			

Ordering information & available pack sizes:

ABsolute Blue QPCR Master Mixes	200 X 25µl (2x1.25ml)	1600 X 25µl (16x1.25ml)	400 X 25µl (1x5ml)	4000 X 25µl (10x5ml)	4000 X 25µl (1x50ml)	40000 X 25µl (10x50ml)
+ ROX Vial	AB-4136/A	AB-4136/B	AB-4137/A	AB-4137/B	AB-4137/D	AB-4137/E
Incl. ROX	AB-4138/A	AB-4138/B	AB-4139/A	AB-4139/B	AB-4139/D	AB-4139/E
Low ROX	AB-4318/A	AB-4318/B	AB-4319/A	AB-4319/B	AB-4319/D	AB-4319/E
SYBR® Green + ROX Vial	AB-4166/A	AB-4166/B	AB-4167/A	AB-4167/B	AB-4167/D	AB-4167/E
SYBR® Green ROX	AB-4162/A	AB-4162/B	AB-4163/A	AB-4163/B	AB-4163/D	AB-4163/E
SYBR® Green Low ROX	AB-4322/A	AB-4322/B	AB-4323/A	AB-4323/B	AB-4323/D	AB-4323/E
SYBR® Green Fluorescein	AB-4219/A	AB-4219/B	AB-4220/A	AB-4220/B	AB-4220/D	AB-4220/E

* Samples are available on request. For more information visit www.thermo.com/blueqpcr

Life Science Research

UK: abgene.info@thermofisher.com +44 (0)1372 723456
USA: abgene.infousa@thermofisher.com +1 800 874 3723
France: abgene.infofrance@thermofisher.com +33 (0)1 60 92 48 00
Germany: abgene.infogermany@thermofisher.com +49 (0)40 23 00 21

www.thermo.com

Thermo SCIENTIFIC