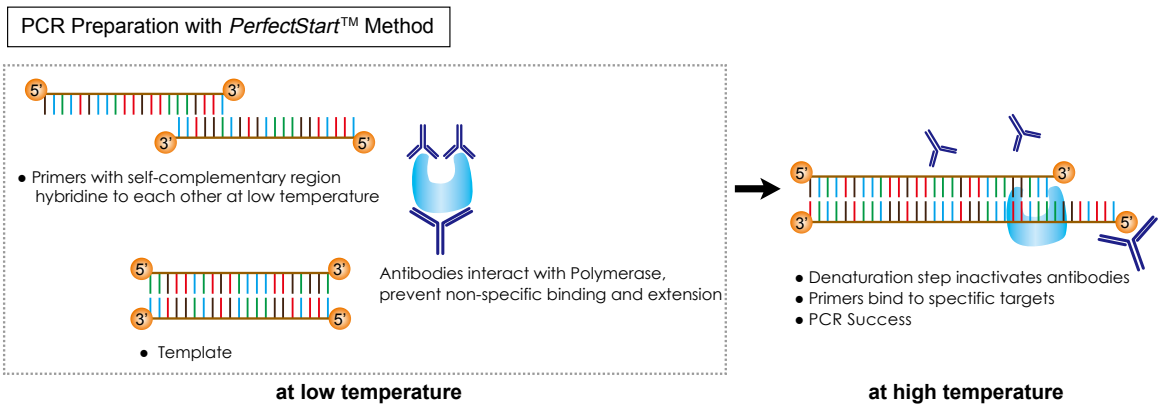
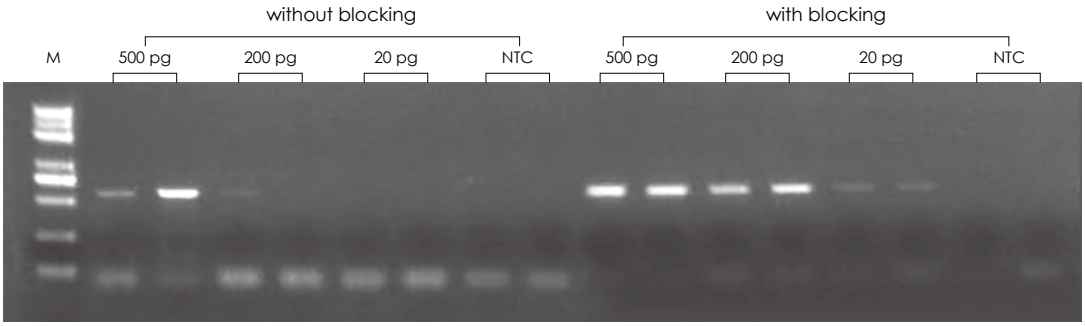
PerfectStart™ Green qPCR SuperMix

- *PerfectStart*™ Taq DNA Polymerase enables high specificity, high sensitivity, and high amplification efficiency with 3 antibodies blocking the polymerase at low temperature to minimize non-specific amplification.
- Dual-cation buffer enhances specificity and reduces primer-dimer formation for increased precision.
- Passive reference dyes are provided for different qPCR instruments for fluorescent signal normalization and correction of well-to-well optical variations.

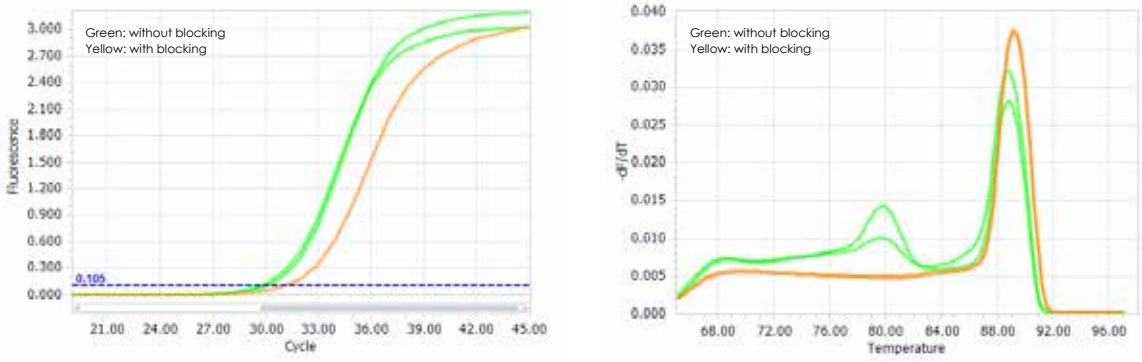
Principle Diagram for Triple Blocking by 3 Antibodies



Blocking Effect



The blocking effect of hot-start *PerfectStart*™ Taq DNA Polymerase was detected by agarose gel electrophoresis for amplification of different concentrations of human gDNA templates. The results show that the amplification sensitivity and specificity are significantly improved after blocking.



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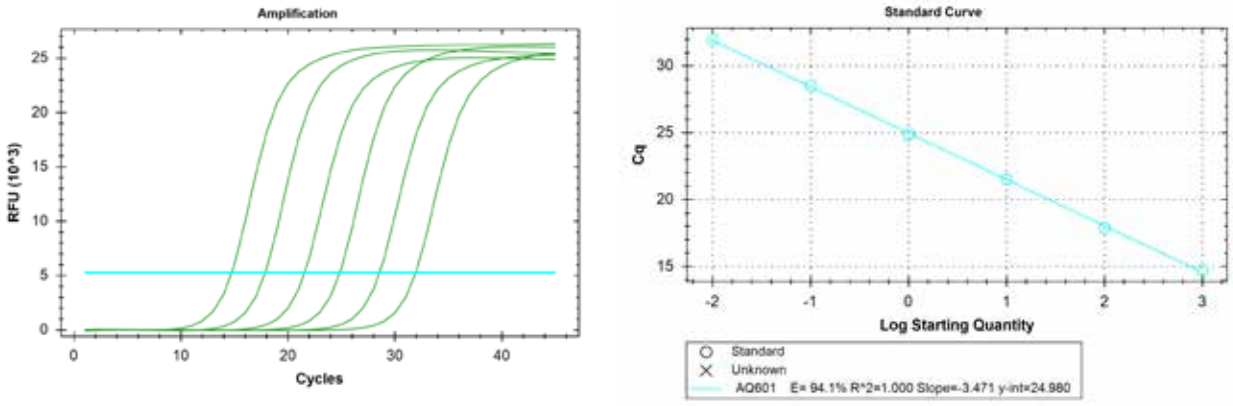
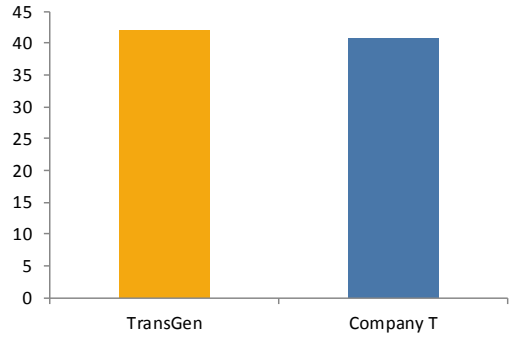
Higher Amplification Efficiency



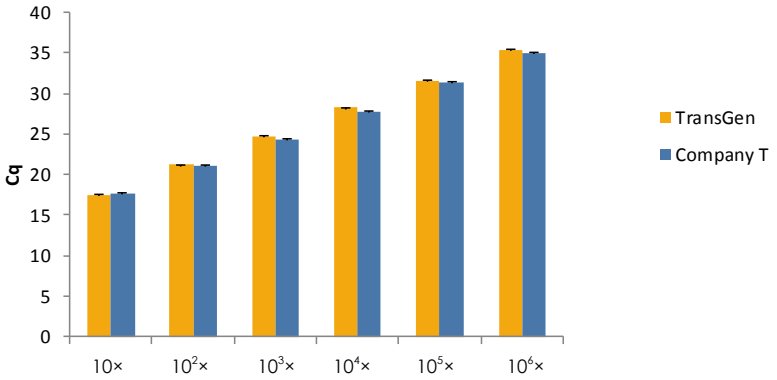
The amplification plot (left) and standard curve (right) are derived from the amplification of a dilution series of plasmid DNA (10 ng to 0.1 pg, 10 times dilution). The results show that *PerfectStart*™ Green qPCR Supermix (AQ601) can achieve high amplification efficiency (94.1%) with slope=3.471 and R^2=1.000, and delivers good sensitivity to detect targets over a broad range of template concentrations.

Greater Specificity



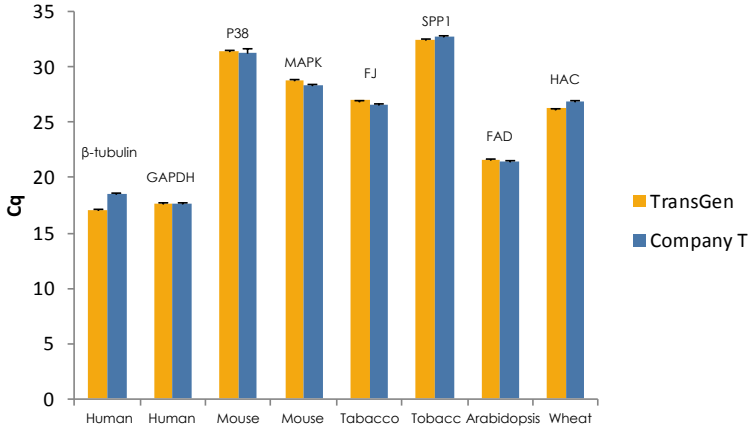
58 genes (9 human genes, 7 mouse genes, 17 rice genes, 8 tobacco genes, 4 Arabidopsis genes, 10 wheat genes and 3 maize genes) were amplified using products from TransGen and Company T. The highest number of genes of which no amplification in NTC was found is obtained by *PerfectStart*™ Green qPCR Supermix, indicating greater specificity.

Higher sensitivity



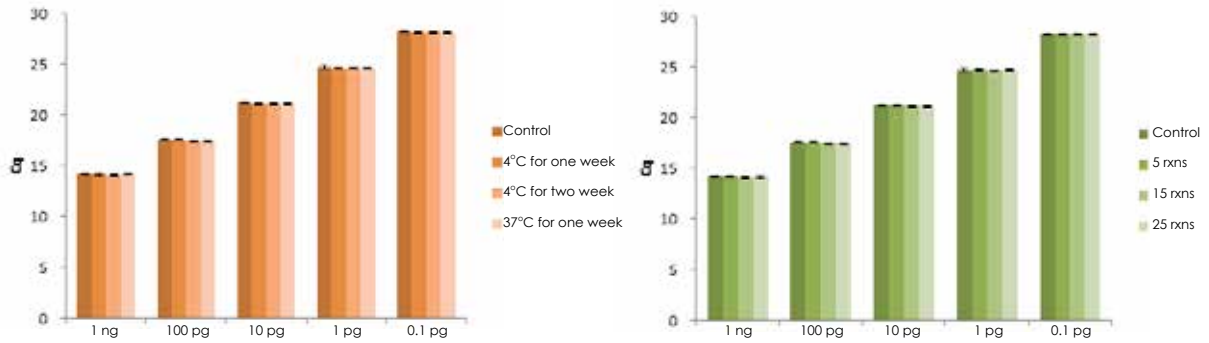
β-actin was amplified from a dilution series of human cDNA obtained by reverse transcription (TransGen, AT311) from 500 ng RNA (no NTC amplification), using the products from TransGen and Company T respectively. The results show that amplification sensitivity of TransGen's *PerfectStart*™ Green qPCR Supermix is comparable to that of Company T.

Amplification of Templates from Different Species



Various targets were amplified from cDNA obtained by reverse transcription (TransGen, AT311) from RNA of different species (no NTC amplification), using the products from TransGen and Company T respectively. The results show that TransGen's *PerfectStart*™ Green qPCR Supermix is comparable to Company T.

Product Stability



Amplification after different temperature preservations

Amplification after repeated freeze-thaw cycles of different times

TransGen's *PerfectStart*™ Green qPCR Supermix showed stable amplification after storage at different temperatures and repeated freeze-thaw cycles

Passive Reference Dye

· Passive Reference Dye I (50×)
ABI Prism 7000/7300/7700/7900, ABI Step One, ABI Step One Plus, ABI 7900HT, ABI 7900HT Fast

· Passive Reference Dye II (50×)
ABI Prism 7500, ABI Prism 7500 Fast, ABI QuantStudio Dx/3/5, ABI QuantStudio 6/7/12K Flex, ABI ViiA 7, Stratagene Mx3000P/Mx3005P/Mx4000

· No Passive Reference Dye
Roche LightCycler 480, Roche Light Cycler 96, MJ Research Chromo4, MJ Research Opticon 2, Takara TP-800, Bio-Rad iCycler iQ, Bio-Rad iCycler iQ5, Bio-Rad CFX96, Bio-Rad C1000 Thermal Cycler, Thermo Scientific Pikoreal 96, Qiagen Corbett Rotor-Gene 6000, Qiagen Corbett Rotor-Gene G, Qiagen Corbett Rotor-Gene Q, Qiagen Corbett Rotor-Gene 3000, Mastercycler ep realplex

qPCR FAQ

Q: What is the role of Passive Reference Dye and how to use it?

A: They are reference fluorescent dyes to correct well-to-well errors for different qPCR instruments. Their concentration is provided at 50×, and 0.4 μl is needed for 20 μl reaction.

Q: Why is the amplification curve abnormal?

A: The baseline setting is incorrect. High concentrations of templates can result in low CT values, i.e. the baseline range becomes smaller, resulting in incorrect reading of fluorescent values by the instrument.

Q: Why is the reproducibility poor?

A: Operative errors.
Low template concentration can lead to poor repeatability. The template concentration should be increased or dilution folds should be decreased.
The temperatures between the wells of the instrument itself are not consistent.

Reminder

Please refer to the manual for storage condition details.
If you have any questions, please contact us via the following contact information or local distributors.

About us

- We provide high quality products for life science.
- We provide simple and efficient methods.
- We provide new concept for scientific research.

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