# v*i*vant*i*s

## ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II (EvaGreen® Dye)

Product code:	QLMM18
Packsize:	150 reactions
Lot No.:	
Expiry Date:	

#### DESCRIPTION

ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II is next generation master mix designed for one step real-time PCR reaction set up. The master mix is prepared in 2X concentrated solution and contains unique thermostable M-MULV enzyme, *Taq* DNA Polymerases, EvaGreen® dye, as well as MgCl<sub>2</sub> and buffer components at optimal concentrations. The M-MULV enzyme has an optimal operating temperature and a higher affinity for primer template duplexes which allows very rapid processing during RT step. EvaGreen® dye in master mix is environmentally safe and highly stable which can be formulated with relative high dye concentration to maximize fluorescence signal without PCR inhibition.

ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II can be used to amplify any RNA template including mRNA, total RNA and viral sequences. The formulation of RT-qPCR master mix can detect low copy number targets very specifically with high efficiency that give CT values close to the theoretical time of detection. The ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II is a complete system for use in one step real-time PCR, the removal of a separate reverse transcription step reduces handling errors as well as the time taken to obtain results. The master mix provides convenient and robust set up for quantitative real-time analysis of RNA samples.

ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II has several formulations optimized to be used with most of real-time PCR instruments. The sensitivity and consistency of ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II in standard cycling conditions gives the industry leading performance in fast cycling conditions.

#### APPLICATIONS

All kinds of RNA sample material suited for RT-qPCR amplification can be used.

#### FEATURES

- One step real time RT-qPCR reaction set up
- Equipped with thermostable M-MULV enzyme EvaGreen® dye – highest dye stability and safety
- Good buffer system for excellent amplification
  efficiency
- Minimal PCR inhibition
- Reliable quantification of low copy number targets
- Optimal performance for highly sensitive and specific RT-qPCR reaction
- Compatible with most of the real-time PCR platforms

### COMPONENTS

3 x 0.6ml aliquots of master mix 0.6ml aliquots of "no RT control master mix standard"

#### STORAGE

Stable at -20°C up to the expiry date stated. Store all components at -20°C upon arrival. Keep in aliquot to reduce freeze-thaw cycles.

#### QUALITY CONTROL

As part of the ISO9001:2008 quality assurance systems, each lot of ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II has been tested against predetermined specifications to ensure consistent product quality and highest levels of performance and reliability.

#### LIMITATION OF USE

For research use only. Not recommended or intended for diagnosis of disease in humans or animals. Do not use internally or externally in humans or animals.

#### INSTRUMENTS

To calibrate a real-time PCR reaction, various formulations of master mixes are available for most of the platforms.

#### Master Mixes with Compatible Hardware

ViPri QLMM18 RT-al

ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II (EvaGreen® Dye)

Biometra qTower, BioRad iCycler, BioRad IQ4, BioRad IQ5, Cepheid SmartCycler®, Eppendorf Mastercycler, Fluidigm BioMark™, Illumina Eco, MJ Chromo4, Opticon, PCRMax Eco™, Roche lightcycler® 480, lightcycler® LC96 and lightcycler® Nano Platforms, RotorGene, Roche Capillary Lightcycler 1.0-2.0, Stratagene MX MX4000P®, MX3000P®, MX3005®, Thermo PikoReal™

ViPrimePLUS One Step *Taq* QLMM18-LR RT-qPCR Green Master Mix II with Low ROX (EvaGreen® Dye)

Applied Biosystems 7500 and 7500 FAST platform, QuantStudio™, ViiA7

QLMM18-R

ViPrimePLUS One Step Taq RT-qPCR Green Master Mix II with ROX (EvaGreen® Dye)

Applied Biosystems 7000, 7300, 7700, 7900 and 7900HT FAST platforms, GeneAmp® 5700, StepOne™, StepOne™ PLUS

#### PROTOCOL

- 1. Keep the RT-qPCR master mix protected from light before and after use.
- 2. Aliquot the RT-qPCR master mix to minimize freezethaw cycles and light exposure.
- 3. Reserve plate positions for positive (control RNA) and negative (water or buffer) controls.
- 4. When preparing mixes, always calculate the volume according to the number of reactions that needed plus one extra.
- 5. After the mixture is prepared and aliquoted into tubes, place them into RT-qPCR platform.

#### SUGGESTED MIXTURE

a. When using ViPrimePLUS gene detection kits:

Components	Reaction (1X)
Taq One Step RT-qPCR Green	10µI
Master Mix II	
Primer/Probe Mix	1µl
Template (25ng)	5µl
Nuclease free water	4µl
Final Volume	20µl

b.	When using user's supplied	primers and probe:
----	----------------------------	--------------------

Components	Reaction (1X)
Taq One Step RT-qPCR Green	10µl
Master Mix II	
Primers (6pmols Forward & Reverse)	Χμl
Probe (3pmols)	Χμl
Template (25ng)	Χμl
Nuclease free water	Χμl
Final Volume	20µl

#### **CYCLING PROGRAM**

a. For Tagman® gene detection kits

Step	Cycles	Temp	Time
Reserve Transcription	1	55°C	10mins
Enzyme activation	1	95°C	8mins
Denaturation	40**	95°C	10secs
Data Collection*		60°C	60secs
*Eluorogonic data should be collected during this stop			

\*Fluorogenic data should be collected during this step through the FAM channel.

\*\*A further 10 cycles can be added to generate the complete amplification plot for low copy number targets which giving late detection.

#### b. For EvaGreen® detection kits

Step	Cycles	Temp	Time
Reverse Transcription	1	55°C	10mins
Enzyme activation	1	95°C	8mins
Denaturation	40***	95°C	10secs
Data Collection*		60°C	60secs
Melt Curve**			

\*Fluorogenic data should be collected during this step through the EvaGreen® channel.

\*\*A post PCR run melt curve can be used to prove the specificity of primers. See the manufactures instructions for your hardware platform.

\*\*\*A further 10 cycles can be added to generate the complete amplification plot for low copy number targets which giving late detection.

#### **PREVENTION OF CONTAMINATION**

RT-qPCR amplification is a very sensitive RNA amplification reaction; therefore extra care should be taken to eliminate the possibility of contamination with any foreign RNA templates.

- Use separate clean areas for preparation of samples, reaction mixture and for cycling.
- Clean lab bench and equipments periodically with 3% hydrogen peroxide or 70% ethanol.
- Wear fresh gloves. Change gloves whenever suspect that they are contaminated.
- Use sterile tubes and pipette tips with aerosol filters for PCR reaction set up.
- With every PCR reaction set up, perform a contamination control reaction without template RNA.

#### TROUBLESHOOTING

Pos	ssibility	Suggestion		
Problem: Negative control / no template control				
gives po	sitive result			
1. Carry contai	over mination	Change nuclease-free water. Use fresh aliquots of reagents. Use filtered tips. Load positive control last.		
Problem	: No signal det	tected		
1. Incorr progra instru	amming of	Check program.		
2. Reage	ents expired	Check the expiry date of reagents before repeat.		
	ge condition omplying with ctions	Check storage condition properly and store at correct storage condition to avoid the degradation of reagents.		
Problem	: Early / late si	gnal detected than expected		
multip 2. Unspe produ	RNA mination or le products	DNase or RNase treatment of template before qPCR; re- design primers to increase specificity Re-design primers to increase specificity		
3. Limitir or deg	ng reagents graded nts such as	Check calculations for master mix; repeat experiment using fresh stock solutions		
4. Poor e during reaction	PCR	Re-design primers to a different region of the target sequence		
5. Unant variar	icipated Its within sequence	Keep the GC content to between 30-50%		

#### LEGAL DISCLAIMER

Purchase of product does not include a license to perform any patented applications; therefore it is the sole responsibility of users to determine whether they may be required to engage a license agreement depending upon the particular application in which the product is used.

#### WARRANTY AND LIMITED LIABILITY

The performance characteristics stated were obtained using the assay procedures in the insert. Failure to comply with the instructions may derive inaccurate results. In such event, manufacturer disclaims all warranty expressed, implied or statutory including the implied warranty of merchantability and the fitness of use.

The manufacturer will not be liable for any damage caused by misuse, improper handling and storage; noncompliance with precautions and procedures, and damages caused by events occurring after the product is released.

EvaGreen® is a registered trademark of Biotium, Inc.

# v*i*vant*i*s

## ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II with Low ROX (EvaGreen® Dye)

Product code: Packsize: Lot No.: Expiry Date: QLMM18-LR 150 reactions

#### DESCRIPTION

ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II is next generation master mix designed for one step real-time PCR reaction set up. The master mix is prepared in 2X concentrated solution and contains unique thermostable M-MULV enzyme, *Taq* DNA Polymerases, EvaGreen® dye, ROX dye as well as MgCl<sub>2</sub> and buffer components at optimal concentrations. The M-MULV enzyme has an optimal operating temperature and a higher affinity for primer template duplexes which allows very rapid processing during RT step. EvaGreen® dye in master mix is environmentally safe and highly stable which can be formulated with relative high dye concentration to maximize fluorescence signal without PCR inhibition.

ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II can be used to amplify any RNA template including mRNA, total RNA and viral sequences. The formulation of RT-qPCR master mix can detect low copy number targets very specifically with high efficiency that give CT values close to the theoretical time of detection. The ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II is a complete system for use in one step real-time PCR, the removal of a separate reverse transcription step reduces handling errors as well as the time taken to obtain results. The master mix provides convenient and robust set up for quantitative real-time analysis of RNA samples.

ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II has several formulations optimized to be used with most of real-time PCR instruments. The sensitivity and consistency of ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II in standard cycling conditions gives the industry leading performance in fast cycling conditions.

#### APPLICATIONS

All kinds of RNA sample material suited for RT-qPCR amplification can be used.

#### FEATURES

- One step real time RT-qPCR reaction set up
- Equipped with thermostable M-MULV enzyme EvaGreen® dye – highest dye stability and safety
- Good buffer system for excellent amplification efficiency
- Minimal PCR inhibition
- Reliable quantification of low copy number targets
- Optimal performance for highly sensitive and specific RT-qPCR reaction
- Compatible with most of the real-time PCR platforms

### COMPONENTS

3 x 0.6ml aliquots of master mix 0.6ml aliquots of "no RT control master mix standard"

#### STORAGE

Stable at -20°C up to the expiry date stated. Store all components at -20°C upon arrival. Keep in aliquot to reduce freeze-thaw cycles.

#### QUALITY CONTROL

As part of the ISO9001:2008 quality assurance systems, each lot of ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II has been tested against predetermined specifications to ensure consistent product quality and highest levels of performance and reliability.

#### LIMITATION OF USE

For research use only. Not recommended or intended for diagnosis of disease in humans or animals. Do not use internally or externally in humans or animals.

#### INSTRUMENTS

To calibrate a real-time PCR reaction, various formulations of master mixes are available for most of the platforms.

#### Master Mixes with Compatible Hardware

Vil QLMM18 RT

ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II (EvaGreen® Dye)

Biometra qTower, BioRad iCycler, BioRad IQ4, BioRad IQ5, Cepheid SmartCycler®, Eppendorf Mastercycler, Fluidigm BioMark™, Illumina Eco, MJ Chromo4, Opticon, PCRMax Eco™, Roche lightcycler® 480, lightcycler® LC96 and lightcycler® Nano Platforms, RotorGene, Roche Capillary Lightcycler 1.0-2.0, Stratagene MX MX4000P®, MX3000P®, MX3005®, Thermo PikoReal™

QLMM18-LR ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II with Low ROX (EvaGreen® Dye)

Applied Biosystems 7500 and 7500 FAST platform, QuantStudio™, ViiA7

QLMM18-R

ViPrimePLUS One Step Taq RT-qPCR Green Master Mix II with ROX (EvaGreen® Dye)

Applied Biosystems 7000, 7300, 7700, 7900 and 7900HT FAST platforms, GeneAmp® 5700, StepOne™, StepOne™ PLUS

#### PROTOCOL

- 1. Keep the RT-qPCR master mix protected from light before and after use.
- 2. Aliquot the RT-qPCR master mix to minimize freezethaw cycles and light exposure.
- Reserve plate positions for positive (control RNA) and negative (water or buffer) controls.
- 4. When preparing mixes, always calculate the volume according to the number of reactions that needed plus one extra.
- 5. After the mixture is prepared and aliquoted into tubes, place them into RT-qPCR platform.

#### SUGGESTED MIXTURE

a. When using ViPrimePLUS gene detection kits:

Components	Reaction (1X)
Taq One Step RT-qPCR Green	10µl
Master Mix II	
Primer/Probe Mix	1µl
Template (25ng)	5µl
Nuclease free water	4µl
Final Volume	20µl

b. When using user's supplied primers and probe:

Components	Reaction (1X)
Taq One Step RT-qPCR Green	10µI
Master Mix II	-
Primers (6pmols Forward & Reverse)	Χμl
Probe (3pmols)	Χμl
Template (25ng)	Xμl
Nuclease free water	ΧµΙ
Final Volume	20µl

#### **CYCLING PROGRAM**

a. For Taqman® gene detection kits

Step	Cycles	Temp	Time
Reserve Transcription	1	55°C	10mins
Enzyme activation	1	95°C	8mins
Denaturation	40**	95°C	10secs
Data Collection*		60°C	60secs

\*Fluorogenic data should be collected during this step through the FAM channel.

\*\*A further 10 cycles can be added to generate the complete amplification plot for low copy number targets which giving late detection.

b. For EvaGreen® detection kits

Step	Cycles	Temp	Time
Reverse Transcription	1	55°C	10mins
Enzyme activation	1	95°C	8mins
Denaturation	40***	95°C	10secs
Data Collection*		60°C	60secs
Melt Curve**			

\*Fluorogenic data should be collected during this step through the EvaGreen® channel.

\*\*A post PCR run melt curve can be used to prove the specificity of primers. See the manufactures instructions for your hardware platform.

\*\*\*A further 10 cycles can be added to generate the complete amplification plot for low copy number targets which giving late detection.

#### **PREVENTION OF CONTAMINATION**

RT-qPCR amplification is a very sensitive RNA amplification reaction; therefore extra care should be taken to eliminate the possibility of contamination with any foreign RNA templates.

- Use separate clean areas for preparation of samples, reaction mixture and for cycling.
- Clean lab bench and equipments periodically with 3% hydrogen peroxide or 70% ethanol.
- Wear fresh gloves. Change gloves whenever suspect that they are contaminated.
- Use sterile tubes and pipette tips with aerosol filters for PCR reaction set up.
- With every PCR reaction set up, perform a contamination control reaction without template RNA.

#### TROUBLESHOOTING

		0		
	ossibility	Suggestion		
Problem: Negative control / no template control				
gives p	ositive result			
1. Carr cont	y over amination	Change nuclease-free water. Use fresh aliquots of reagents. Use filtered tips. Load positive control last.		
	<u> </u>	·		
Proble	m: No signal de	tected		
	rrect ramming of ument	Check program.		
	gents expired	Check the expiry date of reagents before repeat.		
not	age condition complying with uctions	Check storage condition properly and store at correct storage condition to avoid the degradation of reagents.		
Proble	m: Early / late s	ignal detected than expected		
cont	VRNA amination or iple products	DNase or RNase treatment of template before qPCR; re- design primers to increase specificity		
	pecific lucts or primer ers detected	Re-design primers to increase specificity		
or de reag	ting reagents egraded jents such as ter mix	Check calculations for master mix; repeat experiment using fresh stock solutions		
4. Poo	r efficiency ng PCR	Re-design primers to a different region of the target sequence		
varia	nticipated ants within et sequence	Keep the GC content to between 30-50%		

#### LEGAL DISCLAIMER

Purchase of product does not include a license to perform any patented applications; therefore it is the sole responsibility of users to determine whether they may be required to engage a license agreement depending upon the particular application in which the product is used.

#### WARRANTY AND LIMITED LIABILITY

The performance characteristics stated were obtained using the assay procedures in the insert. Failure to comply with the instructions may derive inaccurate results. In such event, manufacturer disclaims all warranty expressed, implied or statutory including the implied warranty of merchantability and the fitness of use.

The manufacturer will not be liable for any damage caused by misuse, improper handling and storage; noncompliance with precautions and procedures, and damages caused by events occurring after the product is released.

EvaGreen® is a registered trademark of Biotium, Inc. ROX™ is a registered trademark of Applara Corporation, US.

# v*i*vant*i*s

## ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II with ROX (EvaGreen® Dye)

Product code:	QLMM1
Packsize:	150 rea
Lot No.:	
Expiry Date:	

#### DESCRIPTION

ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II is next generation master mix designed for one step real-time PCR reaction set up. The master mix is prepared in 2X concentrated solution and contains unique thermostable M-MULV enzyme, *Taq* DNA Polymerases, EvaGreen® dye, ROX dye as well as MgCl<sub>2</sub> and buffer components at optimal concentrations. The M-MULV enzyme has an optimal operating temperature and a higher affinity for primer template duplexes which allows very rapid processing during RT step. EvaGreen® dye in master mix is environmentally safe and highly stable which can be formulated with relative high dye concentration to maximize fluorescence signal without PCR inhibition.

8-R

ctions

ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II can be used to amplify any RNA template including mRNA, total RNA and viral sequences. The formulation of RT-qPCR master mix can detect low copy number targets very specifically with high efficiency that give CT values close to the theoretical time of detection. The ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II is a complete system for use in one step real-time PCR, the removal of a separate reverse transcription step reduces handling errors as well as the time taken to obtain results. The master mix provides convenient and robust set up for quantitative real-time analysis of RNA samples.

ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II has several formulations optimized to be used with most of real-time PCR instruments. The sensitivity and consistency of ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II in standard cycling conditions gives the industry leading performance in fast cycling conditions.

#### APPLICATIONS

All kinds of RNA sample material suited for RT-qPCR amplification can be used.

#### FEATURES

- One step real time RT-qPCR reaction set up
- Equipped with thermostable M-MULV enzyme EvaGreen® dye – highest dye stability and safety
- Good buffer system for excellent amplification
  efficiency
- Minimal PCR inhibition
- Reliable quantification of low copy number targets
- Optimal performance for highly sensitive and specific RT-qPCR reaction
- Compatible with most of the real-time PCR platforms

### COMPONENTS

3 x 0.6ml aliquots of master mix 0.6ml aliquots of "no RT control master mix standard"

#### STORAGE

Stable at -20°C up to the expiry date stated. Store all components at -20°C upon arrival. Keep in aliquot to reduce freeze-thaw cycles.

#### QUALITY CONTROL

As part of the ISO9001:2008 quality assurance systems, each lot of ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II has been tested against predetermined specifications to ensure consistent product quality and highest levels of performance and reliability.

#### LIMITATION OF USE

For research use only. Not recommended or intended for diagnosis of disease in humans or animals. Do not use internally or externally in humans or animals.

#### INSTRUMENTS

To calibrate a real-time PCR reaction, various formulations of master mixes are available for most of the platforms.

#### Master Mixes with Compatible Hardware

ViP QLMM18 RT-0

ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II (EvaGreen® Dye)

Biometra qTower, BioRad iCycler, BioRad IQ4, BioRad IQ5, Cepheid SmartCycler®, Eppendorf Mastercycler, Fluidigm BioMark™, Illumina Eco, MJ Chromo4, Opticon, PCRMax Eco™, Roche lightcycler® 480, lightcycler® LC96 and lightcycler® Nano Platforms, RotorGene, Roche Capillary Lightcycler 1.0-2.0, Stratagene MX MX4000P®, MX3000P®, MX3005®, Thermo PikoReal™

QLMM18-LR ViPrimePLUS One Step *Taq* RT-qPCR Green Master Mix II with Low ROX (EvaGreen® Dye)

Applied Biosystems 7500 and 7500 FAST platform, QuantStudio™, ViiA7

QLMM18-R

ViPrimePLUS One Step Taq RT-qPCR Green Master Mix II with ROX (EvaGreen® Dye)

Applied Biosystems 7000, 7300, 7700, 7900 and 7900HT FAST platforms, GeneAmp® 5700, StepOne™, StepOne™ PLUS

#### PROTOCOL

- 1. Keep the RT-qPCR master mix protected from light before and after use.
- 2. Aliquot the RT-qPCR master mix to minimize freezethaw cycles and light exposure.
- 3. Reserve plate positions for positive (control RNA) and negative (water or buffer) controls.
- 4. When preparing mixes, always calculate the volume according to the number of reactions that needed plus one extra.
- 5. After the mixture is prepared and aliquoted into tubes, place them into RT-qPCR platform.

#### SUGGESTED MIXTURE

a. When using ViPrimePLUS gene detection kits:

Components	Reaction (1X)
Taq One Step RT-qPCR Green	10µl
Master Mix II	
Primer/Probe Mix	1µl
Template (25ng)	5µl
Nuclease free water	4µl
Final Volume	20µl

b. When using user's supplied primers and probe:

Components	Reaction (1X)
Taq One Step RT-qPCR Green	10µl
Master Mix II	
Primers (6pmols Forward & Reverse)	Χμl
Probe (3pmols)	Xμl
Template (25ng)	Xμl
Nuclease free water	Xμl
Final Volume	20µl

#### **CYCLING PROGRAM**

a. For Taqman® gene detection kits

Step	Cycles	Temp	Time
Reserve Transcription	1	55°C	10mins
Enzyme activation	1	95°C	8mins
Denaturation	40**	95°C	10secs
Data Collection*		60°C	60secs

\*Fluorogenic data should be collected during this step through the FAM channel.

\*\*A further 10 cycles can be added to generate the complete amplification plot for low copy number targets which giving late detection.

b. For EvaGreen® detection kits

Step	Cycles	Temp	Time
Reverse Transcription	1	55°C	10mins
Enzyme activation	1	95°C	8mins
Denaturation	40***	95°C	10secs
Data Collection*		60°C	60secs
Melt Curve**			

\*Fluorogenic data should be collected during this step through the EvaGreen® channel.

\*\*A post PCR run melt curve can be used to prove the specificity of primers. See the manufactures instructions for your hardware platform.

\*\*\*A further 10 cycles can be added to generate the complete amplification plot for low copy number targets which giving late detection.

#### **PREVENTION OF CONTAMINATION**

RT-qPCR amplification is a very sensitive RNA amplification reaction; therefore extra care should be taken to eliminate the possibility of contamination with any foreign RNA templates.

- Use separate clean areas for preparation of samples, reaction mixture and for cycling.
- Clean lab bench and equipments periodically with 3% hydrogen peroxide or 70% ethanol.
- Wear fresh gloves. Change gloves whenever suspect that they are contaminated.
- Use sterile tubes and pipette tips with aerosol filters for PCR reaction set up.
- With every PCR reaction set up, perform a contamination control reaction without template RNA.

#### TROUBLESHOOTING

Descibility	Commentier	
Possibility	Suggestion	
	ntrol / no template control	
gives positive result		
1. Carry over	Change nuclease-free water.	
contamination	Use fresh aliquots of	
	reagents. Use filtered tips.	
	Load positive control last.	
Problem: No signal de	etected	
1. Incorrect	Check program.	
programming of		
instrument		
2. Reagents expired	Check the expiry date of	
	reagents before repeat.	
3. Storage condition	Check storage condition	
not complying with	properly and store at correct	
instructions	storage condition to avoid the	
	degradation of reagents.	
Problem: Early / late s	ignal detected than expected	
1. Genomic	DNase or RNase treatment of	
DNA/RNA	template before qPCR; re-	
contamination or	design primers to increase	
multiple products	specificity	
2. Unspecific	Re-design primers to	
products or primer dimers detected	increase specificity	
3. Limiting reagents	Check calculations for master	
or degraded	mix; repeat experiment using	
reagents such as	fresh stock solutions	
master mix		
4. Poor efficiency	Re-design primers to a	
during PCR	different region of the target	
reaction	sequence	
5. Unanticipated	Keep the GC content to	
variants within	between 30-50%	
target sequence		

#### LEGAL DISCLAIMER

Purchase of product does not include a license to perform any patented applications; therefore it is the sole responsibility of users to determine whether they may be required to engage a license agreement depending upon the particular application in which the product is used.

#### WARRANTY AND LIMITED LIABILITY

The performance characteristics stated were obtained using the assay procedures in the insert. Failure to comply with the instructions may derive inaccurate results. In such event, manufacturer disclaims all warranty expressed, implied or statutory including the implied warranty of merchantability and the fitness of use.

The manufacturer will not be liable for any damage caused by misuse, improper handling and storage; noncompliance with precautions and procedures, and damages caused by events occurring after the product is released.

EvaGreen® is a registered trademark of Biotium, Inc. ROX™ is a registered trademark of Applara Corporation, US.