



# TK DNA Polymerase

	High Fidelity PCR				Standard PCR	Extractonfree PCR	Hot Start PCR	
Catalog number	TR-BS1-1072	TR-BS1-1074	TR-BS1-1076	TR-BS1-1078	TR-BS1-1079	TR-BS1-1087	TR-BS1-1090	TR-BS1-1091
DNA polymerase	SMO-HiFi	Q-HiFi	G-HiFi	Klen-Taq	Taq	Blood direct	Hot Start I	Hot Start II

## Properties

Fidelity (compared to Taq)	70X	50X	70X	4X	1X	1X	1X	1X
Amplification length	12 kb	40 kb	40 kb	10 kb	8 kb	< 2 kb	8 kb	8 kb
Extension rate	1 kb/ 10 s	1 kb/ 7 s	1 kb/ 7 s	1 kb/ 20 s	1 kb/ 20 s	1 kb/ 20 s	1 kb/ 20 s	1 kb/ 20 s
Product end structure	blunt end	blunt end	blunt end	3'A/ blunt end	3'A	3'A	3'A	3'A
3'→5' exonuclease activity	Yes	Yes	Yes	Yes	No	No	No	No
5'→3' exonuclease activity	No	No	No	No	Yes	Yes	Yes	Yes
Units/ 50 µl reaction volume	1U	1U	1U	1.25U	1.25U	1.25U	1.25U	1.25U
Annealing temperature	Tm-5	Tm-5	Tm-5	Tm-5	Tm-5	Tm-5	Tm-5	Tm-5

## Applications

Routine PCR	•	•	•	•	★	•	★	★
Colony PCR					★		★	★
High fidelity	★	★	★	•				
High yield PCR	★	•	•	•	•		•	•
High reaction rate	★	★	★					
Long amplicon	•	★	★	•				
GC rich template	★	•	★					
AT rich template				•	•	•	•	•
High throughput							•	•
Multiplex PCR	•	•	•		•	★	•	•
Site-directed mutagenesis	★	★	★					

## Additional Formats

Master Mix	TR-BS1-1075	TR-BS1-1077	TR-BS1-1079		TR-BS1-1082			
Master Dye Mix					TR-BS1-1085	TR-BS1-1090		
Fluorescent Master Mix					TR-BS1-1088	TR-BS1-1091		

## ExcelTaq™ Taq DNA Polymerase TR-BS1-1081 (5 U/μl, 500 U x 1)

### Description

The ExcelTaq™ Taq DNA Polymerase is a recombinant thermo-stable DNA polymerase expressed and purified from an E. coli strain carrying the cloned gene. With high DNA synthesis rate and thermo-stability, ExcelTaq™ Taq DNA Polymerase is suitable for general and specialized PCR applications.

### Features

- 5'→3' DNA polymerase activity
- 5'→3' exonuclease activity
- No detectable 3'→5' exonuclease (proofreading) activity
- Generates PCR products with 3'-dA overhangs
- Thermo-stable: half-life is more than 40 min at 95°C

### Contents

Component	Volume
ExcelTaq™ Taq DNA Polymerase (5 U/μl)	100 μl
10X Taq Buffer	2 x 1ml

### Storage Buffer

20 mM Tris-HCl (pH 8.0), 100 mM KCl, 0.1 mM EDTA, 1 mM DTT, Stabilizer, 50% (v/v) glycerol

### 10X Taq Buffer

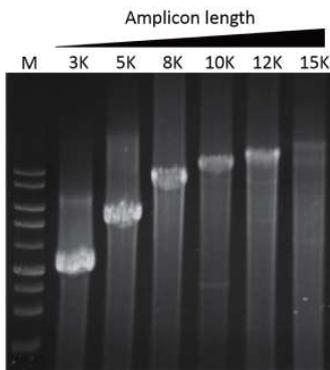
200 mM Tris-HCl (pH 8.8), 100 mM KCl, 100 mM (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>, 20 mM MgSO<sub>4</sub>, 1% Triton X-100

### Unit Definition

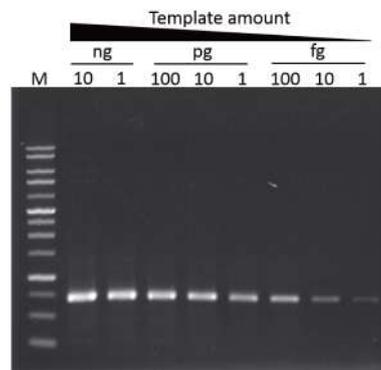
One unit is defined as the amount of enzyme that will incorporate 10 nmol of dNTP into an acid-insoluble material in 30 minutes at 74°C.

### Storage

-20°C for 24 months



ExcelTaq™ Taq DNA Polymerase can amplify PCR products from λDNA up to 15 kb.



ExcelTaq™ Taq DNA Polymerase can amplify PCR products from as little as 1 fg of template DNA.

# Tk PCR Kits Mastermix

## ExcelTaq™ PCR Master Dye Mix TR-BS1-1085 (200 Rxn) TR-BS1-1086 (100 Rxn) TR- BS1-1087 (100 Rxn)

### Description

The ExcelTaq™ PCR Master Dye Mix is a ready-to-use mixture for amplifying targeted DNA fragments. It is designed to serve as ready-to-use master mix for virtually all PCR applications. The mixture contains all essential ingredients for PCR with the exception of template and primers. This not only saves valuable time in the laboratory, but also reduces the number of pipeting and reagent handling errors. The PCR Master Dye Mix is supplied as a 5X/ 2X concentrated ready-to-use mix, that is a mixture of recombinant Taq DNA Polymerase, reaction buffer, MgCl<sub>2</sub> (TP1220 contains MgSO<sub>4</sub>), dNTPs, enzyme stabilizer and PCR friendly loading dye solution containing a tracking dye (Bromophenol blue) enabling efficient amplification of template in PCR and allowing the user to prepare a PCR reagent-loading dye master mix conveniently.

### Features

- 5'→3' DNA polymerase activity
- No detectable 3'→5' exonuclease (proofreading) activity
- Generates PCR products with 3'-dA overhangs
- High throughput PCR & High Yield PCR
- High reproducibility, less pipeting errors
- Load directly into electrophoresis

## ExcelTaq™ 5X Fluorescent PCR Master Mix TR-BS1-1088(200 Rxn)

### Description

The ExcelTaq™ 5X Fluorescent PCR Master Mix is a ready-to-use mixture for amplifying targeted DNA fragments. It is designed to serve as ready-to-use master mix for virtually all PCR applications. The ExcelTaq™ 5X Fluorescent PCR Master Mix is supplied as a 5X concentrated ready-to-use mixture containing all the essential ingredients for PCR with the exception of template and primers. In addition, the mixture contains a tracking dye (Bromophenol blue), and a safer fluorescent DNA staining dye, which enables the user to track the electrophoresis process in real time as well as eliminating the need for staining process. The resultant PCR reaction mixture is sufficiently dense enough to be loaded directly into 1X TAE or 1X TBE buffer for electrophoresis.

### Features

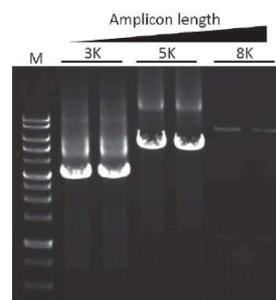
- 5'→3' DNA polymerase activity
- No detectable 3'→5' exonuclease (proofreading) activity
- Generates PCR products with 3'-dA overhangs
- High throughput PCR & High Yield PCR
- High reproducibility, less pipeting errors
- Load directly into electrophoresis
- DNA bands can be visualized directly under UV or 470 nm blue light illumination

### Contents

TR-BS1-1085 Component	Volume
ExcelTaq™ 5X PCR Master Dye Mix	2 x 1 ml
TR-BS1-1086 Component	Volume
ExcelTaq™ 2X PCR Master Dye Mix	2 x 1.25 ml
TR-BS1-1087 Component	Volume
ExcelTaq™ 2X PCR Master Dye Mix (MgSO <sub>4</sub> )	2 x 1.25 ml

### Storage

4°C for 6 months  
-20°C for 24 months

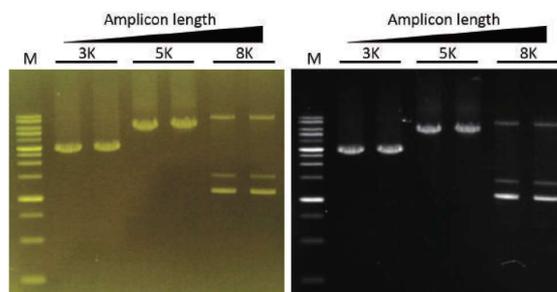


### Contents

Component	Volume
ExcelTaq™ 5X Fluorescent PCR Master Mix	2 x 1 ml

### Storage

Protected from light  
4°C for 6 months  
-20°C for 24 months



Viewed with B-Box™

Viewed with UV light

## ExcelTaq™ 5X Blood Direct PCR Master Mix Kit / Fluoro PCR Kit TR-BS1-1090(200 Rxn) TR-BS1-1091(200 Rxn)

### Description

The ExcelTaq™ 5X Blood Direct PCR Master Mix Kit and ExcelTaq™ 5X Blood Direct Fluoro PCR Kit are designed for amplifying targeted DNA directly from whole blood, eliminating the need for a lengthy DNA isolation process. These PCR master mix kits contain all the essential components for a PCR reaction and a PCR friendly loading and tracking dye (Orange G) allowing the user to easily prepare a PCR reagent and directly loading PCR product into agarose gel for electrophoresis. The ExcelTaq™ 5X Blood Direct Fluoro PCR Kit also contains a safer fluorescent DNA staining dye allowing users to track electrophoresis in real time. The ExcelTaq™ 5X Blood Direct PCR Master Mix Kit/ Fluoro PCR Kit is capable of tolerating the presence of PCR interfering/inhibiting substances in blood and is ideal for high-throughput screening of blood samples for high reproducibility. These PCR master mix kits include a pairs of positive control primers (CCR5) that are compatible with primate blood samples.

### Features

- 5'→3' DNA polymerase activity
- No detectable 3'→5' exonuclease (proofreading) activity
- Generates PCR products with 3'-dA overhangs
- High throughput PCR
- Execute PCR directly from blood samples
- High reproducibility, less pipeting errors
- Compatible with most anticoagulants
- Suitable for multiplex PCR
- Fluorescent dye included (TP1260)

TR-BS1-1090  
ExcelTaq™ 5X Blood Direct PCR Master Mix Kit

### Contents

Component	Volume
ExcelTaq™ 5X Blood Direct PCR Master Mix	2 x 1ml
Positive Control Primers (10 μM, each)	25 μl

### Storage

4°C for 6 months  
-20°C for 24 months

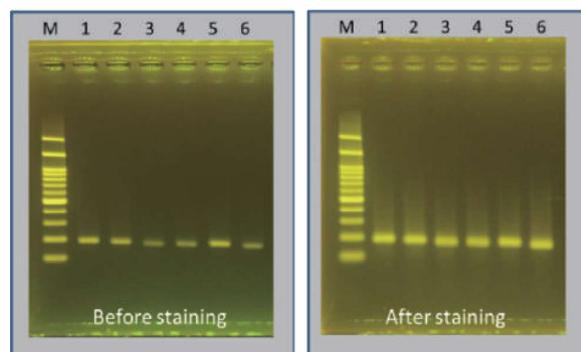
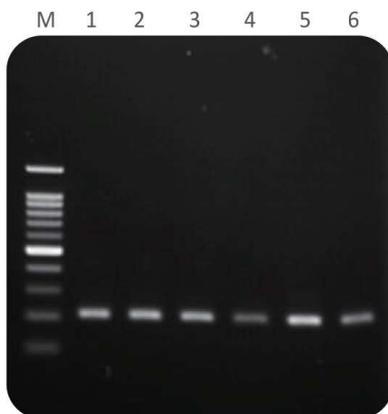
TR-BS1-1091  
ExcelTaq™ 5X Blood Direct Fluoro PCR Kit

### Contents

Component	Volume
ExcelTaq™ 5X Blood Direct Fluoro PCR Mix	2 x 1ml
Positive Control Primers (10 μM, each)	25 μl

### Storage

4°C for 6 months  
-20°C for 24 months



# Tk qPCR Kits Mastermix

## ExcelTaq™ 2X Q-PCR Master Mix (SYBR)

**TR-BS1-1094 (200 Rxn)(SYBR, no ROX)**

**TR-BS1-1095 (200 Rxn)(SYBR, ROX)**

### Description

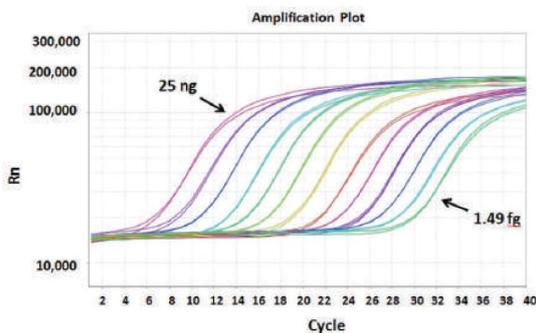
The ExcelTaq™ 2X Q-PCR Master Mix (SYBR) is a ready-to-use reagent with all the essential components for quantitative real-time PCR (qPCR) except primers and template. The master mix features high

sensitivity and signal intensity as well as low background and better compatibility with cDNA templates derived directly from reverse transcription reaction mixture. The ExcelTaq™ 2X Q-PCR Master Mix (SYBR) contains hot-start Taq polymerase in an optimized buffer with dsDNA specific SYBR green fluorescent dye. This master mix allows for sensitive, precise amplification, real-time tracking of the amplification process, and simultaneous quantification for targeted DNA molecules. With inert smart blue contrast dye, the ExcelTaq™ 2X Q-PCR Master Mix (SYBR) is ready-to-use and greatly reduces pipeting errors, while largely improving the reproducibility of the process. The TQ1110 ExcelTaq™ 2X Q-PCR Master Mix (SYBR, ROX)

includes ROX reference dye if recommended by the manufacturer of the qPCR system.

### Features

- High sensitivity
- High signal intensity
- Better compatibility for reverse transcription
- With smart blue contrast dye as a visual aid for reaction setup
- Low background
- With ROX reference dye (TQ1110)



### Contents

TR-BS1-1094 Component	Volume
ExcelTaq™ 2X Q-PCR Master Mix (SYBR, no ROX)	2 x 1ml

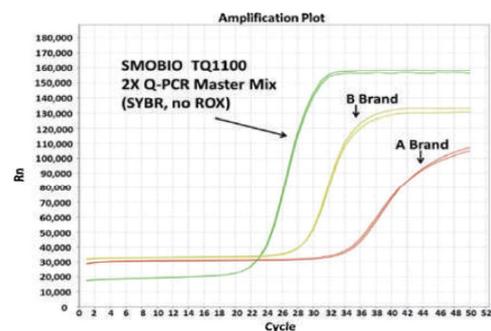
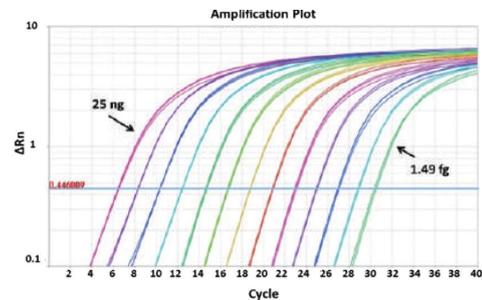
TR-BS1-1095 Component	Volume
ExcelTaq™ 2X Q-PCR Master Mix (SYBR, ROX)	2 x 1ml

### Storage

Aliquot to avoid multiple freeze-thaw cycles

Protect from light

-20°C for 12 months



## ExcelTaq™ 2X Fast Q-PCR Master Mix (SYBR) TR-BS1-1096 (200 Rxn) TR-BS1-1097 (200 Rxn)

### Description

The ExcelTaq™ 2X Fast Q-PCR Master Mix (SYBR) is a ready-to-use reagent with all the essential components for quantitative real-time PCR (qPCR) except primers and templates. The master mix features high sensitivity and signal intensity as well as low background and better compatibility with fast PCR programs.

The ExcelTaq™ 2X Fast Q-PCR Master Mix (SYBR) contains hot-start Taq polymerase in an optimized buffer with dsDNA specific SYBR green fluorescent dye. This master mix allows sensitive, precise amplification, real-time tracking of the amplification process, and simultaneous quantification for targeted DNA molecules.

With inert smart blue contrast dye, the ExcelTaq™ 2X Fast Q-PCR Master Mix (SYBR) is ready-to-use and greatly reduces pipeting errors, while largely improving the reproducibility of the process. The TQ1210 ExcelTaq™ 2X Fast Q-PCR Master Mix (SYBR, ROX) includes ROX reference dye if recommended by the manufacturer of the qPCR system

### Features

- Fast hot start
- High stability
- High sensitivity and signal intensity
- Compatible with fast PCR program
- Smart blue contrast dye as a visual aid for reaction setup
- With ROX reference dye (TQ1210)

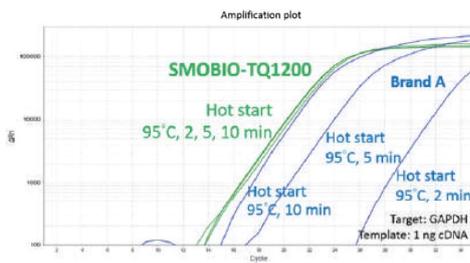
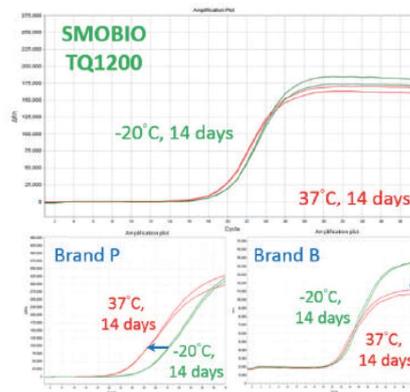
### Contents

TR-BS1-1096 Component	Volume
ExcelTaq™ 2X Fast Q-PCR Master Mix (SYBR, no ROX) 2 x 1ml	

TR-BS1-1097 Component	Volume
ExcelTaq™ 2X Fast Q-PCR Master Mix (SYBR, ROX) 2 x 1ml	

### Storage

Aliquot to avoid multiple freeze-thaw cycles  
Protect from light  
-20°C for 12 months



# Tk qPCR Kits Mastermix

## ExcelTaq™ 2X Q-PCR Master Mix (TaqMan, ROX) TR-BS1-1098 (200 Rxn)

### Description

The ExcelTaq™ 2X Q-PCR Master Mix (TaqMan, ROX) is a ready-to-use reagent with all the essential components for quantitative real-time PCR (qPCR) except primers, TaqMan probes and templates. The master mix includes a 5' to 3' exonuclease activity to cleave TaqMan probes that hybridize to target sequences, releasing fluorophore during probe displacement.

With TaqMan probes, the master mix features high specificity and high sensitivity.

The ExcelTaq™ 2X Q-PCR Master Mix (TaqMan, ROX) contains hot-start Taq polymerase in an optimized buffer that allows for sensitive and precise amplification, real-time tracking of the amplification process, and simultaneous quantification for targeted DNA molecules. The master mix includes ROX reference dye for the normalization of each qPCR assay. The ExcelTaq™ 2X Q-PCR Master Mix (TaqMan, ROX) is ready-to-use and greatly reduces pipeting errors, while largely improving the reproducibility in the process.

### Features

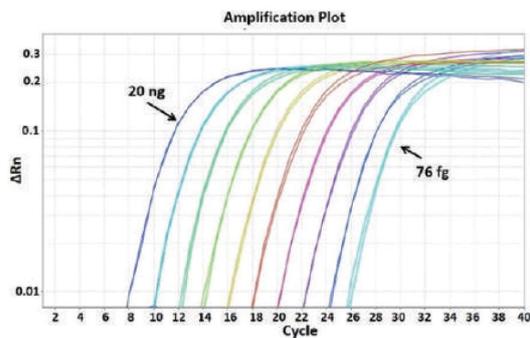
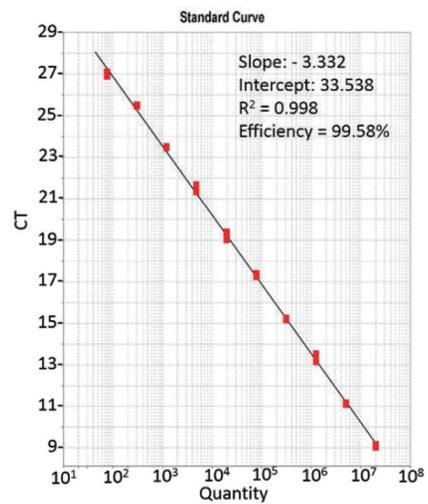
- High sensitivity
- High specificity
- With ROX reference dye

### Contents

Component	Volume
ExcelTaq™ 2X Q-PCR Master Mix (TaqMan, ROX)	2 x 1ml

### Storage

- Aliquot to avoid multiple freeze-thaw cycles
- Protect from light
- -20°C for 12 months



## CAT N°

Description	Volume	Reference
SMO-HiFi TM DNA Polymerase	1 U/μl, 100 U × 1	TR-BS1-1074
SMO-HiFi TM DNA Polymerase	50 Rxn	TR-BS1-1075
Q-HiFi TM DNA Polymerase	1 U/μl, 100 U × 1	TR-BS1-1076
Q-HiFi TM DNA Polymerase	50 Rxn	TR-BS1-1077
G-HiFi TM DNA Polymerase	1 U/μl, 100 U × 1	TR-BS1-1078
G-HiFi TM DNA Polymerase	50 Rxn	TR-BS1-1079
ExcelTaq™ Klen-Taq DNA Polymerase	5 U/μl, 500 U × 1	TR-BS1-1080
ExcelTaq™ Taq DNA Polymerase	5 U/μl, 500 U × 1	TR-BS1-1081
ExcelTaq™ PCR Master Mix	200 Rxn	TR-BS1-1082
ExcelTaq™ PCR Master Mix	100 Rxn	TR-BS1-1083
ExcelTaq™ PCR Master Mix (MgSO <sub>4</sub> )	100 Rxn	TR-BS1-1084
ExcelTaq™ PCR Master Dye Mix	200 Rxn	TR-BS1-1085
ExcelTaq™ PCR Master Dye Mix	100 Rxn	TR-BS1-1086
ExcelTaq™ PCR Master Dye Mix	100 RWxn	TR-BS1-1087
ExcelTaq™ 5X Fluorescent PCR Master Mix	200 Rxn	TR-BS1-1088
ExcelTaq™ Blood Direct DNA Polymerase	5 U/μl, 500 U × 1	TR-BS1-1089
ExcelTaq™ 5X Blood Direct PCR Master Mix Kit / Fluoro PCR Kit	200 Rxn	TR-BS1-1090
ExcelTaq™ 5X Blood Direct PCR Master Mix Kit / Fluoro PCR Kit	200 Rxn	TR-BS1-1091
ExcelTaq™ Hot Start I DNA Polymerase	5 U/μl, 500 U × 1	TR-BS1-1092
ExcelTaq™ Hot Start II DNA Polymerase	5 U/μl, 500 U × 1	TR-BS1-1093
ExcelTaq™ 2X Q-PCR Master Mix (SYBR) (SYBR, no ROX)	200 Rxn	TR-BS1-1094
ExcelTaq™ 2X Q-PCR Master Mix (SYBR) (SYBR, ROX)	200 Rxn	TR-BS1-1095
ExcelTaq™ 2X Fast Q-PCR Master Mix (SYBR) (SYBR, no ROX)	200 Rxn	TR-BS1-1096
ExcelTaq™ 2X Fast Q-PCR Master Mix (SYBR) (SYBR, ROX)	200 Rxn	TR-BS1-1097
ExcelTaq™ 2X Q-PCR Master Mix (TaqMan, ROX)	200 Rxn	TR-BS1-1098

## DNA BUILDING BLOCKS

Description	Reference
Deoxynucleotide (dNTP) Mix, 10 mM each (40 mM total), 200 μl	TR-BS1-1062
Deoxynucleotide (dNTP) Mix 10 mM each (40 mM total), 200 μl x 5	TR-BS1-1063
Deoxynucleotide (dNTP) Mix, 25 mM each (100 mM total), 500 μl	TR-BS1-1064
Deoxynucleotide (dNTP) Mix 25 mM each (100 mM total), 500 μl x 6	TR-BS1-1065
dATP Solution - Sodium Salt (100 mM), 25 ml	TR-BS1-1066
dATP Solution - Sodium Salt (100 mM), 100 ml	TR-BS1-1067
dTTP Solution - Sodium Salt (100 mM), 25 ml	TR-BS1-1068
dTTP Solution - Sodium Salt (100 mM), 100 ml	TR-BS1-1069
dCTP Solution - Sodium Salt (100 mM), 25 ml	TR-BS1-1070
dCTP Solution - Sodium Salt (100 mM), 100 ml	TR-BS1-1071
dGTP Solution - Sodium Salt (100 mM), 25 ml	TR-BS1-1072
dGTP Solution - Sodium Salt (100 mM), 100 ml	TR-BS1-1073