Related Products

Product Group	Cat #	Size	PCR Instrument
First strand cDNA Synthesis			
CellScript cDNA Master Mix	CDS -50 CDS-100 CDS-200 CDS-400	50Rxn 100 Rxn 200 Rxn 400 Rxn	All Machines
SybrGreen realtime PCR Master Mix (One Step and Two Steps)			
QGreen (no ROX) Master Mix QGreenBlue (Low ROX) Master Mix CellScript RT-QGreen Master Mix CellScript (Low ROX) RT-QGreenBlue Master Mix	QG-05 QBLR-05 RTQG-05 RTQBLR-05	5ml	BioRad: CFX-96, FX-384, MJ Opticon, Option2, Chromo4, MiniOpticon Qiagen: Roto-Gene Q, Roto-Gene3000, Roto-Gene 6000 Eppendorf: Mastercycler realplex Illumina: Eco RealTime PCR System Roche: LIghtCycler 480, LightCycler 2.0
QGreen (Low ROX) Master Mix QGreenBlue (Low ROX) Master Mix CellScript RT-QGreen Master Mix CellScript (Low ROX) RT-QGreenBlue Master Mix	QGLR-05 QBLR-05 RTQG-05 RTQBLR-05	5ml	ABI: 7500, 7500 Fast, QuantStudio series, Stratagene: MX4000P, MX3000P, MX3005P
QGreen (High ROX) Master Mix QGreenBlue (High ROX) Master Mix CellScript RT-QGreen Master Mix CellScript (High ROX) RT-QGreenBlue Master Mix	QGHR-05 QBHR-05 RTQG-05 RTQBHR-05	5ml	ABI: 5700, 7000, 7300, 7700, 7900, 7900HT, 7900HT Fast, StepOne, StepOne plus
Taqman probe realtime PCR Master Mix (One Step and Two Steps)			
QPlex RT-qPCR Master Mix	QP-05	5ml	All Machines (For Multiplex TaqMan assay)
QRTPlex RT-qPCR Master Mix	RTQP-01	1ml	All Machines (For Multiplex TaqMan assay)

CellScript ™
cDNA Master Mix

Instruction Manual

Cat. No. CDS-50, CDS-100
CDS-200, CDS-400

Research Use Only

cDNA MasterMix Instruction Manual *Ver.3.0*

CellScript™ cDNA Master Mix

Product descriptions

5X cDNA Master Mix is an optimized Master Mix formulation including all the reagents necessary for first-strand cDNA synthesis, except for RNAs. This 5X concentrated reaction Master Mix contains MMLV reverse transcriptase (RTase), ribonuclease inhibitor, dNTPs and a optimized ratio of Oligo (dT)s and random primers.

Note
Note: Upon completion of the first-strand cDNA synthesis, the cDNA product can be directly applied as a template in a standard PCR/qPCR.

Primer information

Oligo (dT)s are oligonucleotides that anneal to the 3'-Poly(A) tail of mRNAs. The utility of Oligo (dT) is restricted to mRNA or total RNA templates with 3'-Poly(A) tails. Random Primers anneal at non-specific sites within RNA template(s), they can be used for all forms of RNA as template for cDNA synthesis.

Storage and stability

Store all components at -20℃. All components are stable for 1 year from the date of shipment when stored and handled properly.

Materials provided

Materials provided	Quantity			
	CDS-50	CDS-100	CDS-200	CDS-400
	50 Rxn	100 Rxn	200 Rxn	400 Rxn
All-In-One 5X cDNA Master Mix	100 µl	200 µl	400 µl	800 µl
Nuclease free water	500 µl	1 ml	2 ml	4 ml

CellScript™ *cDNA* Master Mix protocol

Preparing for cDNA synthesis reaction

Reverse transcription reactions should be conducted in an RNase-free environment. The use of clean pipets and filter tips are recommended.

1. Thaw RNA templates and the **All-In-One 5X cDNA Master Mix** on ice. Mix solutions gently but thoroughly.

2. Prepare the following reaction mixture in a PCR tube on ice:

Step	Components	cDNA synthesis reaction (10 µl reaction)	No RT control reaction (10 µl reaction)
1	All-In-One 5X cDNA Master Mix	2 µl	2 µl
2	Nuclease free Water	8 µl – X µl (volume of RNA)	8 µl – X µl (volume of RNA)
3	RTase inactivation	No	Incubate for 1 min at 95℃ and chilling on ice.
4	Template RNA	X µl (≤ 1µg Total RNA or 10 ng poly(A) + mRNA)	X µl (≤ 1µg Total RNA or 10 ng poly(A) + mRNA)
	Total	10 µl *	10 µl *

* In order to synthesize the larger amount of cDNA, the reaction volume could be increased. ex) 20 µl , 50 µl. In that case, larger amounts of RNA may be added in proportion to 10 µl reaction.

3. Mix the components well and collect by brief centrifugation. Incubate the mixture in the following reaction conditions.

Temperature	Time
25℃	5 min
42℃	15 min for qPCR 30 ~ 60 min for PCR
85℃	5 sec
4℃	Optional

4. The newly synthesized first-strand cDNA is ready for immediate downstream applications, or for long-term storage at -20°C.

General notes

1. Both poly(A) + mRNA and total RNA can be used for first-strand cDNA synthesis, but poly(A) + mRNA may give higher yields and improved purity of final products.
2. RNA samples must be free of genomic DNA contamination.
3. To remove RNA complementary to the cDNA, add 1 µl (2 U) of *E. coli* RNase H and incubate at 37℃ for 20 mins.