

# PCR – qPCR – RT-PCR

- DNA Ladders
- DNA Stains
- dNTPs
- Enzymes

**EUROMEDEX**

**24, rue des Tuileries PB 684 67460 SOUFFELWEYERSHEIM CEDEX**

**Tél : 03 88 18 07 22 Fax : 03 88 18 07 25**

**e-mail : [research@euromedex.com](mailto:research@euromedex.com) Internet : [www.euromedex.com](http://www.euromedex.com)**

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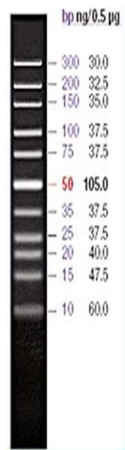


# PCR

## DNA Ladders

### Ultra Low range Ladder

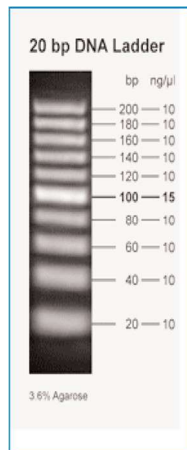
- Supplied at a concentration of 0.5 mg/ml
- Supplied with loading solution QSP 100 T



03B-0111 50 µg 121,00 € HT

### 20 bp DNA Ladder

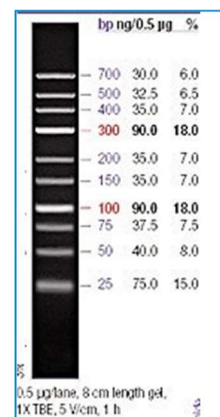
- 20 bp DNA Ladder, 20-200 bp Ready-to-Load containing orange G
- Concentration : 105 µg/µl, 100 lanes



JE-M-212S 500 µl 110,00 € HT

### 25 bp DNA Ladder

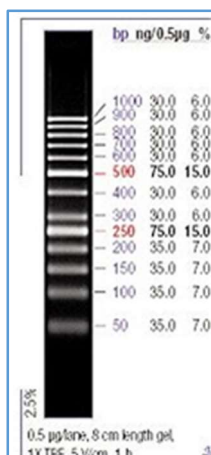
- Concentration of 0.5mg/ml
- Supplied with loading solution
- RTU :Ready to use : 0.1µg/µl QSP 100 T



03B-0211 50 µg 119,00 € HT  
03B-0213 100 T 144,00 € HT

### GeneRuler 50 bp DNA Ladder

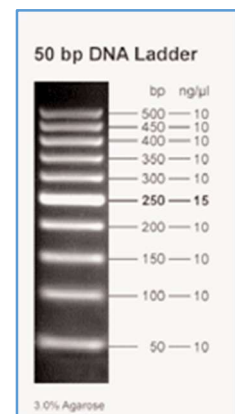
- Supplied at a concentration of 0.5mg/ml
- Supplied with loading solution
- Ready to use : supplied in 0.1µg/µl QSP 100 tests



03B-0611 50 µg 100,00 € HT  
03B-0612 5 x 50 µg 420,00 € HT  
03B-0613 100 T 143,00 € HT

### 50 bp DNA Ladder

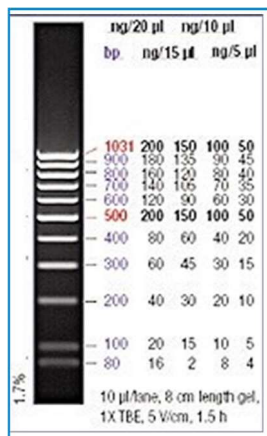
- Concentration : 105 ng/µl
- The fragment mix is supplied in ready-to-use format containing orange tracking dyes



JE-M-213S 100 T 92,00 € HT

### GeneRuler 100 bp DNA Ladder

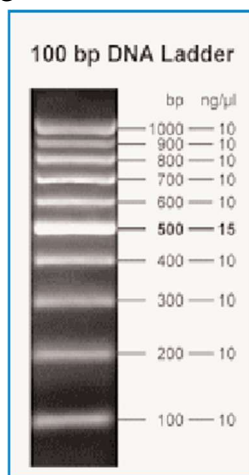
- Supplied at a concentration of 0.5mg/ml
- Supplied with loading solution
- Ready to use : supplied in 0.1µg/µl QSP 100 tests



03B-0711	50 µg	81,00 € HT
03B-0712	5 x 50 µg	338,00 € HT
03B-0713	100 T	141,00 € HT

### 100 bp DNA Ladder

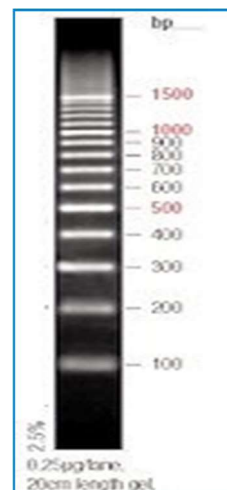
- Concentration : 105 ng/µl
- Ready to load containing Orange G



JE-M-214S	100 T	76,00 € HT
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### Orange 100 bp DNA Ladder

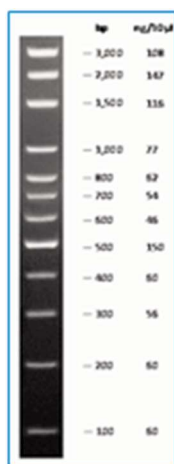
- Ready-to-use
- Stable at room temperature for 6 months.
- Concentration : 0.1µg/µl



03O-0713	25 µg	161,00 € HT
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### 100 bp DNA Ladder Ready to load

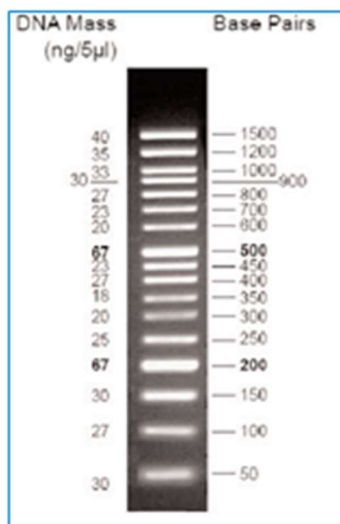
- Ready-to-use - premixed with 6X Blue Loading Dye Sol.
- Conc.:0.1 µg / µl



07-11-00050	50 µg	62,00 € HT
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### 100 bp Opti DNA Marker

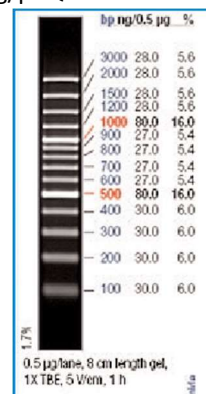
- Ready-to-use
- QSP 100 tests



AM-G016	500 µl	52,00 € HT*
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### 100 bp DNA Ladder plus

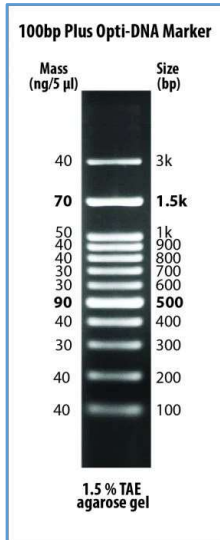
- Supplied at a concentration of 0.5mg/ml
- Supplied with loading solution
- Ready to use : supplied in 0.1µg/µl QSP 100 tests



03B-0911	50 µg	81,00 € HT
03B-0912	5 x 50 µg	366,00 € HT
03B-0913	100 T	124,00 € HT

100 bp Plus Opti DNA Marker

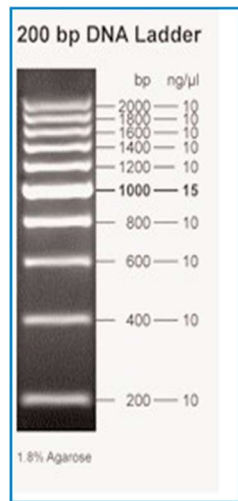
- Ready-to-use
- QSP 100 tests



AM-G193	500 µl	52,00 € HT
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200 bp DNA Ladder

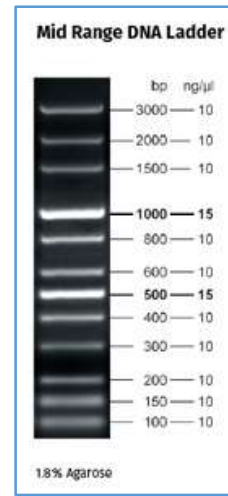
- Concentration : 105 ng/µl
- Ready-to-use



JE-M-215S	100 T	73,00 € HT
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Mid Range DNA Ladder

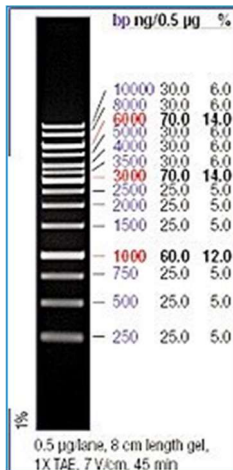
- Ready-to-use
- Contain Orange and xylene cyanol FF
- Concentration :130 ng/µl, 500µL



JE-M-203S	100 T	83,00 € HT
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DNA Ladder 1 kb

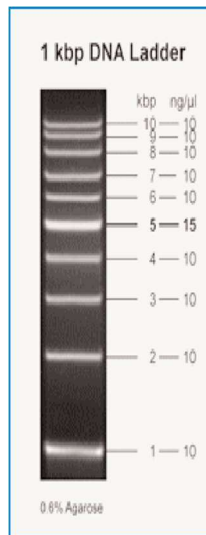
- Supplied at a concentration of 0.5mg/ml
- Supplied with loading solution
- Ready to use : supplied in 0.1µg/µl
- QSP 100 tests



O3B-1214	50 µg	55,00 € HT
O3B-1211	5 x 50 µg	143,00 € HT
O3B-1212	25 x 50 µg	656,00 € HT
O3B-1213	100 T	212,00 € HT

1kb DNA Ladder

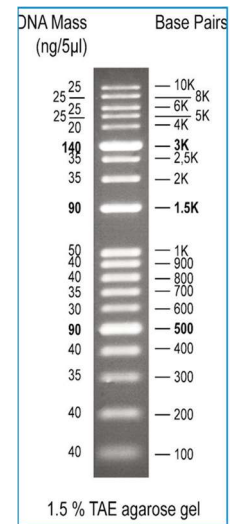
- Concentration : 105 ng/µl, QSP 100 T
- Ready-to-use



JE-M-217S	100 T	55,00 € HT
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1kb Opti DNA Marker

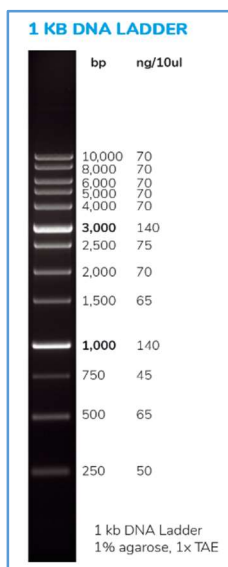
- Ready-to-use
- QSP 100 T



AM-G106	500 µl	52,00 € HT
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### 1kb DNA Ladder Ready to load

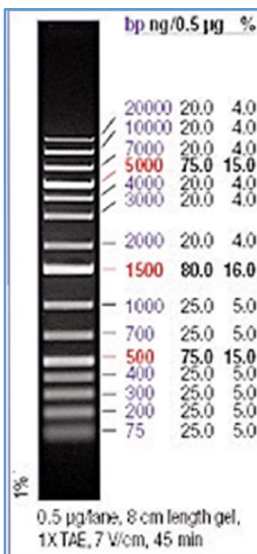
- Storage conditions : Stable for up to 9 months at room temperature
- Conc.: 0.1 µg / µl



07-12-00050 50 µg 53,00 € HT

### 1kb DNA Ladder Plus

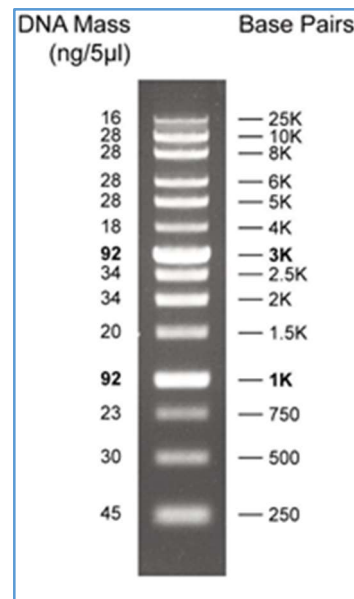
- Supplied at a concentration of 0.5mg/ml
- Supplied with loading solution
- Ready to use : supplied in 0.1µg/µl QSP 100 tests



03B-1411 5 x 50 µg 147,00 € HT  
03B-1413 100 T 240,00 € HT

### 1 kb Plus Opti DNA marker

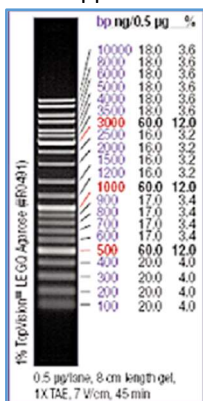
- Ready-to-use
- QSP 100 T



AM-G248 500 µl 52,00 € HT

### Ladder Mix (100 bp + 1 kb)

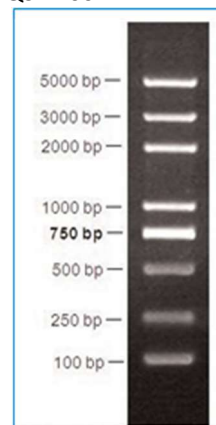
- Supplied at a concentration of 0.5mg/ml
- Supplied with loading solution
- Ready to use : supplied in 0.1µg/µl QSP 100 tests



03B-1311 5 x 50 µg 156,00 € HT  
03B-1312 25 x 50 µg 665,00 € HT  
03B-1313 100 T 241,00 € HT

### 2kb Opti DNA Ladder

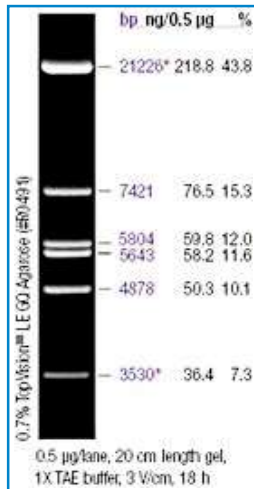
- Ready-to-use
- QSP 100 T



AM-G249 500 µl 63,00 € HT

Lambda DNA/EcoR I

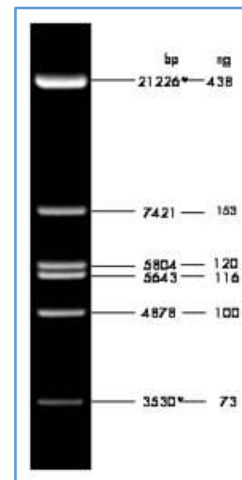
- Supplied with 6 x Loading Dye Solution
- Concentration : 0.5 µg/µl



04-01111	5 x 50 µg	96,00 € HT
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Lambda DNA/EcoR I Digest

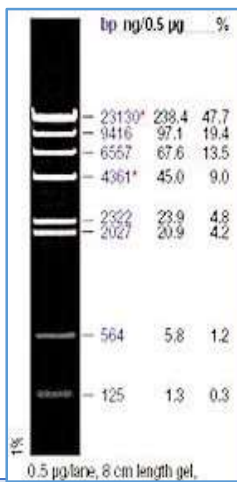
- Ready to use
- Concentration : 0.4 µg/µl



JE-M-102S	50 µg	30,00 € HT
JE-M-102L	5 x 50 µg	121,00 € HT

Lambda DNA/ Hind III

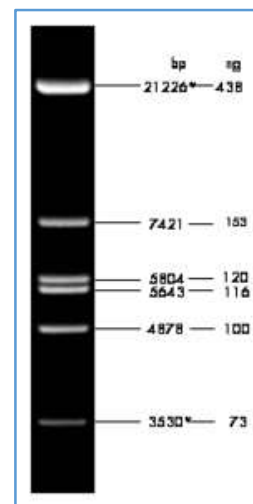
- Supplied with 6 x Loading Dye Solution



04-01211	5 x 50 µg	77,00 € HT
04-01212	25 x 50 µg	358,00 € HT
04-01213	100 T	132,00 € HT

Lambda DNA/ Hind III Digest

- Ready to use
- Concentration : 0.4 µg/µl

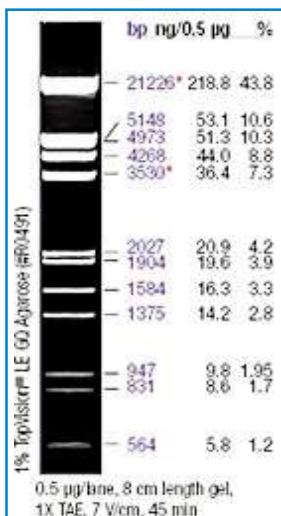


JE-M-101S	50 µg	30,00 € HT
JE-M-101L	5 x 50 µg	121,00 € HT



**Lambda DNA/ Hind III + EcoR I**

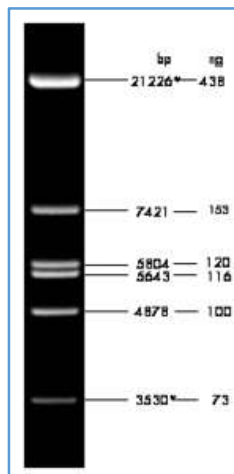
- Concentration : 0.4 µg/µl



04-011211	5 x 50 µg	81,00 € HT
04-011212	25 x 50 µg	348,00 € HT

**Lambda DNA/ EcoR I/Hind III Digest**

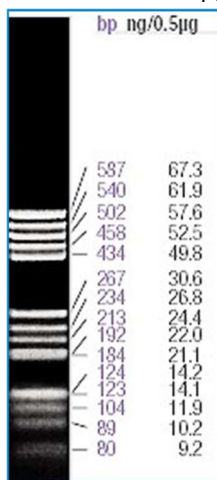
- Ready to use
- Concentration : 0.1 µg/µl



JE-M-103S	1 ml	30,00 € HT
JE-M-103L	5 x 1 ml	121,00 € HT

**pBR322 DNA/BsuR I (Hae III)**

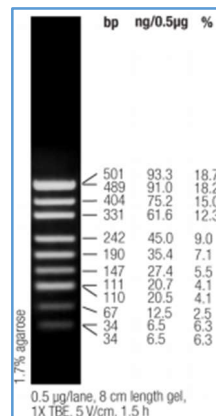
- Supplied with 6 x Loading Dye Solution
- Concentration : 0.5 µg/µl



04-02511	50 µg	95,00 € HT
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**pUC19 DNA/Msp I (Hpa II)**

- Supplied with 6 x Loading Dye Solution
- Concentration : 0.5 µg/µl
- Ready to use version premixed with 6 x Loading Dye



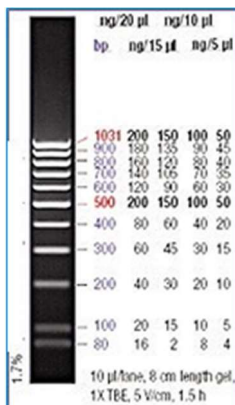
04-04711	50 µg	102,00 € HT
04-04713	100 T	124,00 € HT

### Mass DNA Ladders

- Accurate DNA quantification - DNA in the ladder bands is quantified spectrophotometrically
- Produce sharp bands.
- Easy-to-remember fragment sizes.
- Stable at room temperature for 6 months.
- Ready to use, supplied with 6X Mass Loading Dye Solution.
- Each vial contain 2x0.5ml QSP 100 tests

#### Mass DNA Ladder Low Range

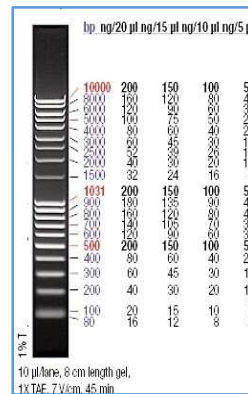
- Conc. : 60,8 ng/ml



02B-0213 2 x 500 µl 187,00 € HT

#### Mass DNA Ladder Mix

- Conc. : 103 ng/ml



02B-1313 2 x 500 µl 181,00 € HT

### Fast DNA Ladders

- Designed for high throughput analysis on 48-96-well agarose gels.
- Produce sharp bands.
- Fast separation (8-14 min), short separation distance (10-20 mm).
- Stable at room temperature for 6 months.
- Ready-to-use - premixed with a loading dye solution for direct loading.
- Easy-to-remember fragment sizes and concentrations.
- Suitable for approximate quantification of PCR products or other DNA fragments

#### Fast DNA Ladder ultra low range (10-200 bp)

- Ready-to-use, is supplied with 6X Orange Loading Dye Solution
- Concentration : 22.2 ng/ml

#### Fast DNA Ladder low range (50-1 500 bp)

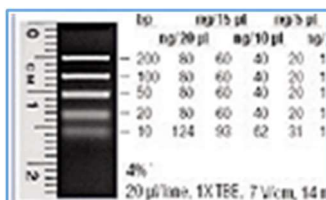
- Ready-to-use, is supplied with 6X Orange Loading Dye Solution
- Concentration : 20 ng/ml

#### Fast DNA Ladder middle range (100-5 000 bp)

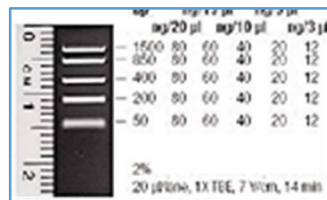
- Ready-to-use, is supplied with 6X Orange Loading Dye Solution
- Concentration : 20 ng/ml

#### Fast DNA Ladder high range (500-10 000 bp)

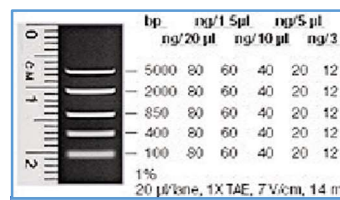
- ready-to-use, is supplied with 6X Orange Loading Dye Solution
- Concentration : 20 ng/ml



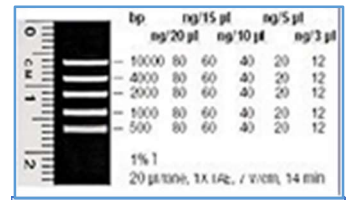
01B-0113 2 x 500 µl 150,00 € HT



01B-0213 2 x 500 µl 105,00 € HT



01B-0313 2 x 500 µl 118,00 € HT



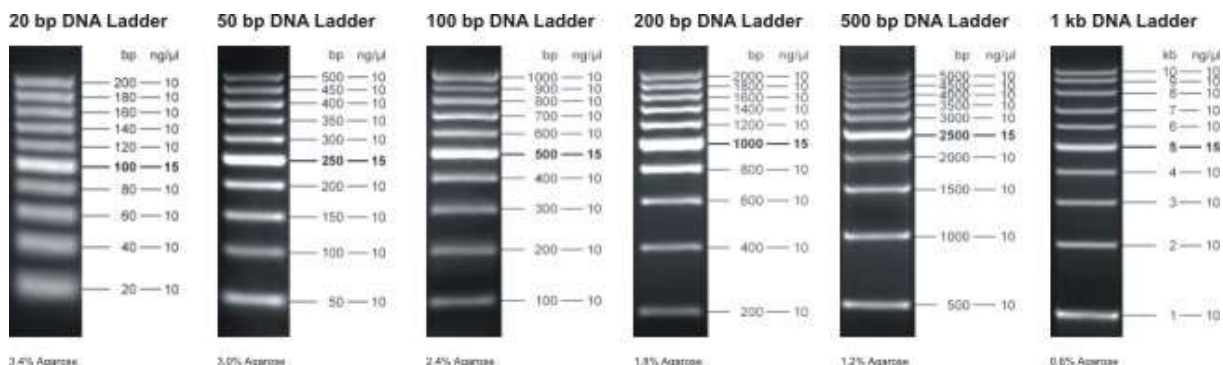
01B-0413 2 x 500 µl 108,00 € HT

Fluorescent log scale DNA Ladders

**Log Scale DNA Ladders with Fluorescent Stain** consist of 10 DNA fragments and are supplied in a ready-to-use format containing Evagreen fluorescent DNA stain and tracking dyes.

High quantum yield and excellent stability makes EvaGreen the ideal fluorophore for DNA staining applications and a superior replacement for the widely used dyes Ethidium Bromide or SYBR® Green.

DNA Ladders with Fluorescent Stain are optimized for direct loading into unstained agarose gels and are recommended for use in combination with Gel Loading Buffer with DNA Stain (Cat.-No. JE-PCR-255).



JE-M-232S 100 T 132,00 € HT	JE-M-233S 100 T 110,00 € HT	JE-M-234S 100 T 92,00 € HT	JE-M-235S 100 T 88,00 € HT	JE-M-236S 100 T 66,00 € HT	JE-M-237S 100 T 66,00 € HT
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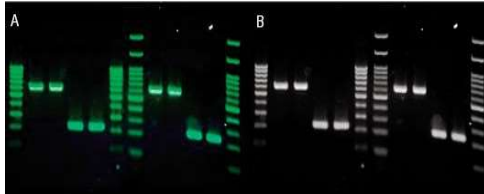
## DNA Stains

### Clear Sight DNA Stain

ClearSight DNA Stain is a new, non-carcinogenic, sensitive and convenient stain to use instead of highly carcinogenic ethidium bromide stain (EtBr) for detecting nucleic acid in agarose gels (Figure).

It has two secondary fluorescence excitation peaks (~270 nm; ~295 nm) and one strong excitation peak centered around 490 nm.

The fluorescence emission is similar to EtBr when bound to DNA – at ~ 530 nm.



Agarose gels, stained by Atlas ClearSight DNA Stain (A and B).

EUH40501	1ml	65,00 € HT
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### ClearSight Gold DNA Stain

**NEW !**

EUH40601	1ml	93,00 € HT
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#### APPLICATIONS:

- Non-carcinogenic alternative to ethidium bromide.
- Excellent for in-gel staining.
- Great sensitivity: 0.2 ng (DNA) or 1 ng (total RNA).
- Low background signal

#### DESCRIPTION:

Atlas ClearSight Gold DNA Stain is a new nucleic acid stain which can be used as a safer alternative to the traditional ethidium bromide stain for detecting nucleic acid in agarose gels.

It is as sensitive as Ethidium bromide and can be used exactly the same way in agarose gel electrophoresis.

Atlas ClearSight Gold DNA Stain emits green fluorescence when bound to DNA or RNA. It has two fluorescent excitation maxima of ~250 and ~482 nm, and an emission maximum of ~509 nm.

Thus, Atlas ClearSight Gold DNA stain is a highly sensitive green fluorescent stain for a safe visualization of DNA and RNA in agarose gels using the Blue/Green LED technology.

Atlas ClearSight Gold DNA Stain can be used for both precast agarose gels and poststaining.

#### PROTOCOL:

##### **Precasting:**

- Prepare 100 ml of agarose gel solution (concentration from 0.8-3.0%) and heat until the solution is completely clear and no small floating particles are visible.
- Add 4-8 µl of Atlas ClearSight Gold DNA Stain to the gel solution and mix it gently.
- Cool the gel to 60-70°C and cast the gel, into the gel tray.
- When the gel is solid, load the samples and perform electrophoresis.
- Detect the bands under Blue light or UV illuminator.

##### **Poststaining:**



- The Atlas ClearSight Gold poststaining solution may be used 2-3 times. Staining solution to be reused should be preferably stored at room temperature in the dark up to one week.
- Add 10-25 µl stain per 100 ml of buffer.
- Optimal staining time (10 – 30 minutes) and the amount of the stain may depend on the thickness of the gel and the percentage of agarose.

**NOTES:**

- 1 ml of Atlas ClearSight DNA Stain is sufficient for 12-25 L of agarose gel.
- Atlas ClearSight Gold DNA Stain is non-carcinogenic but may irritate skin and eyes. Please wear gloves while handling.

Safety: Atlas ClearSight Gold DNA Stain is non-carcinogenic and according to the Ames test it causes significantly fewer mutations than Ethidium bromide.

Storage & Shipping: Store at room temperature or at +4°C, protected from light.

### ClearSight Gold Tablets with TAE **NEW!**

EUA50402	100 pcs	362,00 € HT
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**APPLICATIONS:**

- Ideal for routine DNA and RNA gel electrophoresis and blotting assays
- Convenient tablet format—no messy weighing required
- Fast dissolving protocol
- Used dye is non-carcinogenic alternative to Ethidium bromide.

**SPECIFICATION:**

- Melting point: 88 ± 1,5 °C
- Separation range: 100 bp to >30 kb

**DESCRIPTION:**

Each Atlas ClearSight Gold Tablet with TAE contains:

- Pre-determined amount of standard melting point agarose (0.325 g)
- Perfect amount of Atlas ClearSight Gold DNA Stain and
- TAE powder (0.175 g)

Atlas ClearSight Gold Tablet with TAE are packed in a convenient blister pack.

This composition is optimized to yield high resolution of sharp DNA bands with high sensitivity and low background.

Atlas ClearSight Gold DNA Stain emits green fluorescence when bound to DNA or RNA. It emits green fluorescence when bound to DNA or RNA. It has two fluorescent excitation maxima of ~250 and ~482 nm, and an emission maximum of ~509 nm. Thus, Atlas ClearSight Gold DNA Stain is compatible with a wide variety of gel reading instruments.

The purity of the agarose leads to an excellent transparency and a low background. This is especially important to obtain sharp and well-defined DNA and/or RNA bands with the highest sensitivity in the low molecular weight range.

The high quality of agarose allows the good detection of small DNA bands size below 100 bp.

May 24

PROTOCOL:

**Do NOT use hot buffer** for dissolving the tablet

- Use the bottle or flask that is at least 3 times of the volume of the solution being prepared.
- Soak the tablet in the running buffer for 1-3 minutes (or until it is dissolved) before heating.
- For tablet dissolving use TAE running buffer which is at room temperature.
- Heat the solution until it is clear and visually all the particles are dissolved.

Gel %	1 tablet	2 tablets	3 tablets
0.8%	40.5 ml	81 ml	121.5 ml
1%	32.5 ml	65 ml	97.5 ml
1.2 %	27 ml	54 ml	81 ml
1.5%	21.5 ml	43 ml	64.5 ml
2%	16.25 ml	32.5 ml	48.75 ml

Ethidium Bromide

C<sub>21</sub> H<sub>20</sub> Br N<sub>3</sub> MW : 394,3 CAS : [1239-45-8]

Ethidium Bromide is a fluorescent dye that binds to DNA and RNA and is used in detection systems of ssDNA and dsDNA.

Signal word : Danger /GHS06, GHS08/H331-H341/P261-P281-P311

*Solution 10 mg/ml*

EU0070	10 ml	23,00 € HT
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*Solution 0.5 mg/ml*

Supplied in dropper vial

EU0071-A	10 ml	18,00 € HT
EU0071	2x10 ml	22,00 € HT

EvaGreen® Fluorescent DNA Stain

EvaGreen® Fluorescent DNA Stain is a superior DNA intercalator dye specially developed for DNA analysis applications including real-time PCR (qPCR) and high resolution EvaGreen® fluorescent DNA stain is supplied as 50x concentration.

Spectroscopic data : Excitation maximum : Ex = 500 nm (bound to DNA) Emission maximum : Em = 530 nm (bound to DNA)

JE-PCR-379	500 µl	68,00 € HT
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## SafeView™ DNA Stains

New and safe class of nucleic acid stains for the visualization of double-stranded DNA, single-stranded DNA, and RNA in agarose gels.

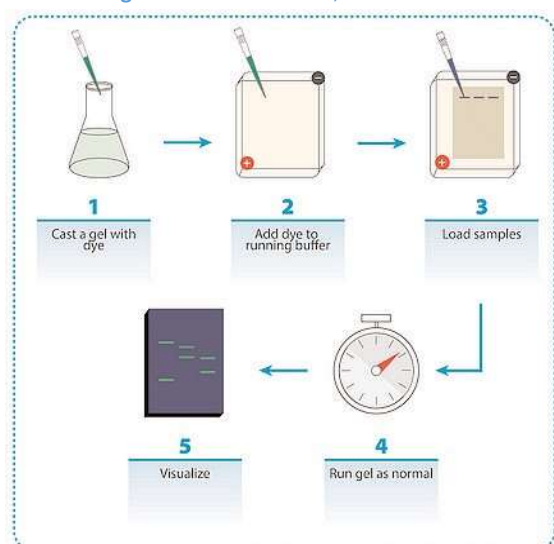
SafeView™ products are non-carcinogenic by the Ames-tests

SafeView™ dyes are provided in a form of 6x sample loading dyes and they are to be added to your samples only. The Safeview dyes completely eliminate any possible contamination of glassware or gel running tank as associated with Ethidium Bromide

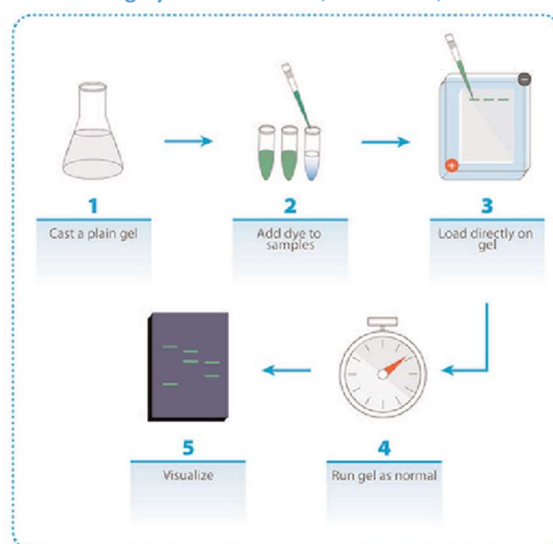
Note : AM-G108-R do not stain RNA, AM-G680 stains dsDNA, ssDNA & RNA in agarose gel

Ref	Name	UV	Blue Light	Sensitivity	Concentration	Format
AM-G108-G	Safe-Green™	✓	✓	0.2 - 0.6 ng DNA per band	6X	Loading dye
AM-G108-R	Safe-Red™	✓	✓	0.6 - 1 ng DNA per band	6X	Loading dye
AM-G108	Safe-View™ Classic	✓	✓	1 – 2 ng DNA per band	10 000X	Pre-cast or Post-stain
AM-G680	Safe Red™ Gel	✓	✓	0.6 – 1 ng DNA per band	10 000X	Pre-cast or Post-stain

### Gel casting : Safe-View™ Classic, Safe-Red™ Gel



### Loading dye : Safe-Green™, Safe-Red™, Safe-Red™ Gel



AM-G108-G	Safe-Green™	1 ml	45,00 € HT
AM-G108-R	Safe-Red™	1 ml	50,00 € HT
AM-G680	Safe-Red™ Gel	1 ml	85,00 € HT
AM-G108	Safe-View™ Classic	1 ml	75,00 € HT

## dNTPs

### dNTP Mixes

dNTP Mix contains aqueous solution of dATP, dCTP, dGTP and dTTP, each at a final concentration of 2 mM, 10 mM, 20mM, or 20mM. The Mix offers the possibility to reduce the number of pipetting steps and the risk of reaction set up errors.

#### **Applications**

For direct use in PCR, long PCR, RT-PCR, cDNA synthesis, primer extension, DNA sequencing and DNA labeling.

#### *2 mM Nucleotide Mix*

EUH40202	1 ml	22,00 € HT
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#### *10 mM Nucleotide Mix*

EUA01601	1 ml	43,00 € HT
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#### *20 mM Nucleotide Mix*

02-31-00020	250 µl	46,00 € HT
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#### *dNTP Mix dUTP 10 mMol*

dNTP Mix incl. dUTP is an mixture of 10 mM ultrapure dATP, dCTP, and dGTP, and 20 mM dUTP supplied as clear aqueous solution (pH 8.5).

dUTP can be used in place of dTTP in PCR and RT-PCR protocols to prevent carry-over contaminations from previous amplifications.

JE-NU-1020S	1 ml	90,00 € HT
JE-NU-1020L	5 x 1 ml	361,00 € HT

### dNTP sets

All dNTPs are chemically synthesized nucleotides that are 99% pure by HPLC. Our nucleotides are available as a dNTP set containing four separate solutions of dNTPs and as ready-to-use mix of dATP, dCTP, dGTP and dTTP. Ready-to-use dNTP mix can be added directly to amplification reaction, and is designed to save time, reduce the risk of contamination and ensure the reproducibility of results. A separate vial of dUTP is available at a concentration of 100 mM.

#### **Features**

- Ultrapure: >99% by HPLC
- Reliable, consistent results
- Available both as a ready-to-use mix and a set
- Wide range of applications

#### *dNTP set 100 mMol (TE buffer)*

100mM dATP, 100mM dCTP, 100mM dGTP and 100mM dTTP Sodium Salt Solutions Description : The set contains of 100mM solutions of dATP, dCTP, dGTP and dTTP each in separate vial in Te buffer (100mM Tris pH 7.8, 1mM EDTA)

02-21-00100	4 x 450 µl	145,00 € HT
02-21-00400	4 x 1 ml	713,00 € HT

#### *dNTP set 100 mMol (water)*

The set consists of 100 mM aqueous solutions of dATP, dCTP, dGTP and dTTP each supplied in a separate vial. Since the nucleotides are provided individually, the dNTP set offers maximum flexibility in the preparation of reaction mixes for different applications.

AM-G050	4 x 250 µl	117,00 € HT
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*NTP Bundle*

4 x 100 mM ATP, CTP, GTP, UTP

- Concentration : 100 mM +/- 2%
- Form : Clear aqueous solution
- pH : 8.0 +/- 0,2 (4°C)
- Purity 99 %

JE-NU-1014S	4 x 200 µl	50,00 € HT
JE-NU-1014L	4 x 1 ml	198,00 € HT

dNTP single solutions*dATP 100 mM*C<sub>10</sub>H<sub>12</sub>N<sub>5</sub>O<sub>12</sub>P<sub>3</sub>Na<sub>4</sub> MW: 579.14**Description:**

- 100mM solution in TE buffer (100mM Tris pH 7.8, 1mM EDTA)
- Purity Assay (HPLC): >98%

02-21-00100-A	250 µl	40,00 € HT
02-21-00400-A	1 ml	187,00 € HT

*dCTP 100 mM*C<sub>9</sub>H<sub>12</sub>N<sub>3</sub>O<sub>13</sub>P<sub>3</sub>Na<sub>4</sub> MW: 555.09**Description:**

- 100mM solution in TE buffer (100mM Tris pH 7.8, 1mM EDTA)
- Purity Assay (HPLC) >98%

02-21-00100-C	250 µl	40,00 € HT
02-21-00400-C	1 ml	187,00 € HT

*dGTP 100 mM*C<sub>10</sub>H<sub>12</sub>N<sub>5</sub>O<sub>13</sub>P<sub>3</sub>Na<sub>4</sub> MW: 595.15**Description:**

- 100mM solution in TE buffer (100mM Tris pH 7.8, 1mM EDTA)
- Purity Assay (HPLC) >98%

02-21-00100-G	250 µl	40,00 € HT
02-21-00400-G	1 ml	187,00 € HT

*dTTP 100 mM*C<sub>10</sub>H<sub>13</sub>N<sub>2</sub>O<sub>14</sub>P<sub>3</sub>Na<sub>4</sub> MW: 570.10**Description:**

- 100mM solution in TE buffer (100mM Tris pH 7.8, 1mM EDTA)
- Purity Assay (HPLC) >98%

02-21-00100-T	250 µl	40,00 € HT
02-21-00400-T	1 ml	187,00 € HT

*dUTP 100 mM*C<sub>9</sub>H<sub>12</sub>N<sub>2</sub>O<sub>14</sub>P<sub>3</sub> (Anion) MW:465.12 (Anion)

Purity&gt;99%

JE-NU-1008L	1 ml	129,00 € HT
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## Enzymes : Taq polymerase selection guide

Name #ref	Routine PCR	Genotyping	Maximal template length	Fidelity (10 <sup>-3</sup> , WT Taq)	Speed	TA cloning compatible	GC rich compatible	dNTP mix included	Master Mix/ref	Master Mix with dye/ref	Special features
Taq DNA Polymerase AM-G009	Yes		6.5 kb	1x	1 kb/min	Yes				AM-G888	
Taq Pol #01-01-00500	Yes		3 kb	1x	1 kb/min	Yes	Yes (Buffer S)			04-12-00115	RT Stable
BlasTaq™ DNA Polymerase #AM-G894	Yes		10-15 kb	1x	4 kb/min	Yes				AM-G895	Fast and robust
Econo Taq #LU-30031	Yes	Yes	5 kb	1x	1 kb/min	Yes			LU-30035	LU-30033	High purity
Hot Pol #01-02-00500			3 kb		1 kb/min	Yes	Yes				Hot Taq
BlasTaq™ HotStart DNA Polymerase #AM-G595			10-15 kb	1x	4 kb/min	Yes					High Specificity
Phanta Max Super-Fidelity DNA Polymerase #VA-P505-d1	Yes	Yes	<ul style="list-style-type: none"> <li>•40 kb λ DNA</li> <li>•20 kb gDNA</li> <li>•10 kb cDNA</li> </ul>	53x	2 kb/min	No		Yes	VA-515-01	VA-525-01	<ul style="list-style-type: none"> <li>•Hot start</li> <li>•Super fidelity</li> <li>•Long template</li> <li>•Crude material compatible</li> </ul>
2 x Phanta® Flash Super-Fidelity	Yes	Yes	12 kb	53x	4-5 sec/kb (≤10 kb)	No	Yes		VA-P510	VA-P520	
MegaFi™ Pro Fidelity DNA Polymerase #AM-G886 <b>NEW !</b>			<ul style="list-style-type: none"> <li>•10.6 kb λDNA</li> <li>•15 kb gDNA</li> <li>•18 kb</li> </ul>	2000x	2-3 kb/min	No	Yes			AM-G887	<ul style="list-style-type: none"> <li>•Impure template</li> <li>•Low input</li> <li>•ΔT<sub>m</sub>&gt;10°C</li> </ul>
High fidelity Pol #JE-PCR-204	Yes		30 kb	4x	1 kb/min			JE-PCR-234			Long & High Fidelity
Ultra DNA Polymerase #JE-PCR-391				50x	2 kb/min		Yes				<ul style="list-style-type: none"> <li>• Robust</li> <li>• Fast</li> <li>• Enhanced fidelity</li> <li>• Also known as Phusion High-Fidelity DNA Polymerase</li> </ul>

## Enzymes & master mixes for PCR

### Routine PCR

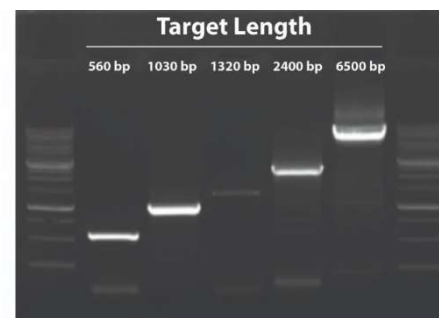
#### *Taq DNA Polymerase*

Taq DNA Polymerase is a highly thermostable DNA Polymerase that catalyzes the 5'-3' synthesis of DNA. This polymerase has 5'-3' exonuclease activities, lacks 3'-5' exonuclease activity, and produces 3'-dA-tailed amplicons. PCR products made with Taq can be used with TA cloning vectors.

#### Product Features

- Consistent results over a wide range of DNA templates
- Excellent yield and sensitivity
- Produces 3'-dA-tailed amplicons that can be used with TA-cloning vectors
- 5X Taq Buffer (contain 1.5 mM Mg<sup>2+</sup>) provided
- Ready-to-use mastermix is also available (AM-G888)
- ISO 13485:2016 MDSAP Certified

AM-G009	200 T (200 µl)	24,00 € HT
AM-G888	400 T (10.0 ml)	71,00 € HT



PCR amplification with Taq DNA Polymerase AM-G009 of various targets sizes ranging from 560 bp to 6500 bp followed by 1% agarose gel electrophoresis

#### *Taq Pol*

Taq Pol is a highly processive, thermostable DNA Polymerase. Due to its genetic modifications Taq Pol has an enhanced stability at room temperature with no activity loss for up to 1 month. The enzyme has 5'->3' polymerase and exonuclease activity but lacks 3'->5' exonuclease activity.

#### Features

- Exceptional stability at room temperature
- Selection of buffers and an enhancer for personal optimization

#### Applications

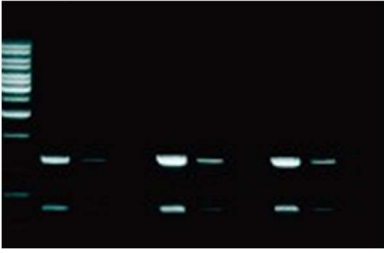
- Wide range of PCR assays, TA cloning
- Error rate per nucleotide per cycle: ~2.5 x 10<sup>-5</sup>
- Estimated half-life at 95°C is 1.5 hours

01-01-00500	500 U	73,00 € HT
01-01-01000	1000 U	145,00 € HT
01-01-02000	2000 U	255,00 € HT

**Concentration:** 5 U/µl

#### Reagents Provided:

- TAQ Pol DNA Polymerase
- 10 x Reaction buffer B (Mg<sup>2+</sup> free): 0.8 M Tris-HCl, 0.2 M (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>, 0.2% w/v Tween-20
- 10 x Reaction buffer BD (Mg<sup>2+</sup> and detergent free): 0.8 M Tris-HCl, 0.2 M (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>
- 25 mM MgCl<sub>2</sub>
- 10 x Solution S: Additive that facilitates amplification of difficult templates (e.g. GC-rich DNA templates). This solution should be used at a defined working concentration (1x, 2x or 3x solution). Solution S is NOT a reaction buffer and should be used ONLY IF non-specific amplifications occur



Mouse Genomic DNA 1183 bp and 643 bp fragments were amplified from mouse genomic DNA using HOT FIREDNA Polymerase together with three buffers: A1 (lane 1-3), B1 (lane 4-6) and B2 (lane 7-9). Template DNA was serially diluted tenfold with a starting concentration of 1 ng/μl. The enzyme performed well even with the template's concentration being as low as 0.01 ng/μl. HOT DNA Polymerase was used at 0.04 U/μl.

### Taq Pol 5X Master Mix Ready to load

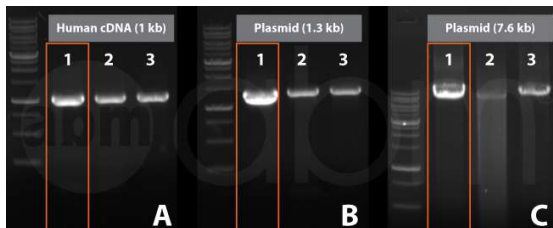
Pol 5 x Master Mix Ready to Load is a premixed ready-to-use solution containing all reagents required for PCR (except template, primers and water), additional compound needed for direct loading onto agarose gel and two tracking dyes (blue and yellow) that allow to monitor progress during electrophoresis

04-12-00115	7.5mM MgCl <sub>2</sub> , (1x final 1.5mM)	1 ml	38,00 € HT
04-12-00125	12.5mM MgCl <sub>2</sub> , (1x final 2.5mM)	1 ml	38,00 € HT

All the necessary components are already included in the right entailment

### BlasTaq™ DNA Polymerase

**BlasTaq™ DNA Polymerase** is a strategically-engineered, next generation Taq Polymerase that has **rapid extension rates and robust performance**. With specialized reaction conditions, this polymerase provides increased processivity, yields, and sensitivity, while shortening reaction times by up to 70%, compared to wild-type Taq DNA polymerase. BlasTaq™ has 5'-3' polymerase and 5'-3' exonuclease activities, lacks 3'-5' exonuclease activity, and produces 3'-dA-tailed amplicons. PCR products made with BlasTaq™ can be used with TA cloning vectors.



PCR amplification using BlasTaq™ DNA Polymerase (Cat. No. AM-G894) (column 1) of various targets vs. competitor polymerases (column 2 and 3) followed by electrophoresis on a 1% agarose gel. A) 1 kb target from Human cDNA. B) 1.3 kb target from plasmid DNA. C) 7.6 kb target from plasmid DNA

AM-G894	400 T (200 μl)	87,00 € HT
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### BlasTaq™ 2X PCR MasterMix

**BlasTaq™ 2X PCR MasterMix** is a ready-to-use MasterMix containing BlasTaq™ DNA Polymerase in a uniquely-formulated buffer with gel loading dye.

AM-G895	800 T	300,00 € HT
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This strategically engineered, next generation Taq Polymerase provides **rapid extension rates and robust performance**. With specialized reaction conditions, this polymerase provides increased processivity, yields, and sensitivity, while shortening reaction times by up to 70%, compared to wild-type Taq DNA polymerase. BlasTaq™ has 5'-3' polymerase and 5'-3' exonuclease activities, lacks 3'-5' exonuclease activity, and produces 3'-dA-tailed amplicons. PCR products made with BlasTaq™ can be used with TA cloning vectors

### EconoTaq® DNA Polymerase

Available with or without Mg<sup>++</sup>

- Greater than 99% pure by SDS gel electrophoresis (see Figure).
- No detectable DNA contamination as determined by PCR using generic primers.
- No detectable endonuclease (nicking) activity. Incubation of 10 U of EconoTaq DNA Polymerase with 1 μg of supercoiled pBR322 DNA for 16 hours at 70°C results in no detectable conversion to relaxed or linear forms by agarose gel electrophoresis.
- No detectable exonuclease activity. Incubation of 10 U of EconoTaq DNA Polymerase with 1 μg of HindIII-cut lambda DNA for 16 hours at 70°C results in no smearing of bands on agarose gell
- 10X Reaction Buffer: 100mM Tris-HCl (pH 9.0), 500 mM KCl, 1% Triton X- 100, and with (LU-30031-1) or without (LU-30032-1) 15mM MgCl<sub>2</sub>.



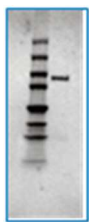


Figure. High purity of EconoTaq dNa Polymerase (SDS PAGE). Lane 1, broad range molecular weight markers; lane 2, Lucigen EconoTaq DNA Polymerase

LU-30031-1	1000 U	179,00 € HT
LU-30032-1	1000 U	179,00 € HT

### EconoTaq PLUS 2X Master Mix

EconoTaq 2X Master Mixes are packaged in 50 reaction vials, stable for 10 freeze-thaw cycles, and can be stored in the refrigerator (+4°C) for up to 3 months.

LU-30035-1	500 T	300,00 € HT
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### EconoTaq™ Plus Green 2x Master Mix

Ready-to-use PCR reaction master mixes, contain dNTPs and PCR Enhancer.

Can be cycled up to 98°C to amplify the most challenging GC-rich templates others cannot. EconoTaq PLUS GREEN contains tracking dyes for gel electrophoresis

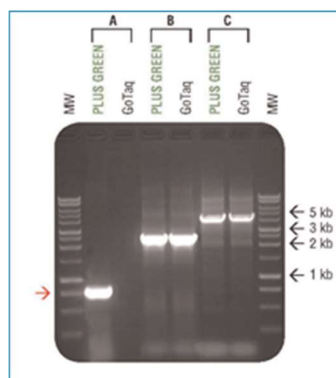


Figure. EconoTaq PLUS GREEN Master Mix amplified a template GoTaq Green Master Mix (Promega) could not (arrow). PCR was performed according to the manufacturer's recommendations. Panel A, a prokaryotic single-stranded DNA binding protein (genomic DNA) ; Panel B, prokaryotic DNA polymerase A (genomic DNA); Panel C, 4.5 kb gene (plasmid DNA).

LU-30033-1	500 T	293,00 € HT
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### FailSafe™ PCR Systems

Dependable, consistent high-fidelity PCR results with every target DNA template.

- Successful PCR, the first time and every time
- PCR amplification of difficult or high-GC templates
- Multiplex PCR compatible
- Robust amplification of targets up to 20 kb long
- High accuracy with 3-fold lower error rate than Taq DNA polymerase (error rate = 1 in 30,000)
- Extremely high sensitivity and specificity using the PCR Enhancer Technology (with Betaine)

#### Description

The FailSafe™ PCR System provides dependable, consistent high-fidelity PCR results for every DNA template, regardless of its source or sequence. The FailSafe™ PCR System will faithfully amplify your template every time....We promise!

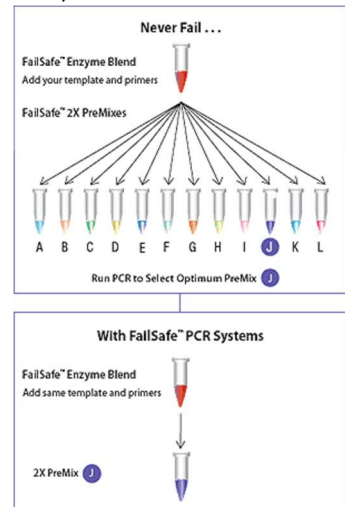
#### Applications

- End-point PCR optimization
- Consistent and reproducible PCR

#### How the FailSafe System Works

1. First, purchase the FailSafe PCR PreMix Selection Kit (catalog number LU-FS99060). The FailSafe PCR PreMix Selection Kit is composed of:

- FailSafe PCR Enzyme Blend (60 Units)
  - Twelve (12) different FailSafe™ 2X PCR PreMixes. Each 2X PreMix contains dNTPs, Buffer and different concentrations of Mg+2 and Epicentre's proprietary PCR Enhancer (with Betaine).
2. Prepare and perform PCR reactions using your template and PCR primers with each of the 12 FailSafe™ 2X PCR PreMixes and the FailSafe PCR Enzyme.
  3. Analyze, by agarose gel electrophoresis, the PCR product produced from each of the 12 reactions and visually determine which PreMix gives the best amplification (e.g., a single, strong PCR product of the desired length or "as expected" multiplex PCR results). We guarantee that one of the FailSafe PCR 2X PreMixes will give the desired amplification product.
  4. For reliable and consistent PCR results, use the FailSafe PCR Enzyme and the best 2X PreMix identified in the optimization experiments for all subsequent amplifications with that template/primer combination.
  5. To reduce costs, purchase a FailSafe PCR System (Cat. No. LU-FS99100, LU-FS99250, or LU-FS9901K) which provides sufficient enzyme and the appropriate amount of your favorite 2X PCR Premix(es) instead of buying the enzyme and 2X PCR Premixes separately



<b>FailSafe™ Premixes</b>			
LU-FSP995A	FailSafe™ PCR 2X PreMix A	2.5 ml	93,00 € HT
LU-FSP995B	FailSafe™ PCR 2X PreMix B	2.5 ml	93,00 € HT
LU-FSP995C	FailSafe™ PCR 2X PreMix C	2.5 ml	93,00 € HT
LU-FSP995D	FailSafe™ PCR 2X PreMix D	2.5 ml	91,00 € HT
LU-FSP995E	FailSafe™ PCR 2X PreMix E	2.5 ml	91,00 € HT
LU-FSP995F	FailSafe™ PCR 2X PreMix F	2.5 ml	91,00 € HT
LU-FSP995G	FailSafe™ PCR 2X PreMix G	2.5 ml	91,00 € HT
LU-FSP995H	FailSafe™ PCR 2X PreMix H	2.5 ml	91,00 € HT
LU-FSP995I	FailSafe™ PCR 2X PreMix I	2.5 ml	91,00 € HT
LU-FSP995J	FailSafe™ PCR 2X PreMix J	2.5 ml	91,00 € HT
LU-FSP995K	FailSafe™ PCR 2X PreMix K	2.5 ml	91,00 € HT
LU-FSP995L	FailSafe™ PCR 2X PreMix L	2.5 ml	91,00 € HT
<b>FailSafe™ PCR systems &amp; Enzyme</b>			
LU-FS99060	FailSafe™ PCR PreMix Selection Kit (all 12 Premixes)	1 kit, 60 Units	188,00 € HT
LU-FS99100	FailSafe™ PCR System with PreMix Choice (any one PreMix)	100 Units	234,00 € HT
LU-FS99250	FailSafe™ PCR System with PreMix Choice (any one PreMix)	250 Units	534,00 € HT
LU-FS9901K	FailSafe™ PCR System with PreMix Choice (any one PreMix)	1000 Units	1915,00 € HT
LU-FSE51100	FailSafe™ Enzyme mix only	100 Units	215,00 € HT
LU-FSE5101K	FailSafe™ Enzyme mix only	1000 Units	1759,00 € HT

## Hot Start PCR

### Hot Pol

Hot DNA Polymerase is a chemically modified DNA Polymerase. At ambient temperatures it is inactive, having no polymerization activity. Hot DNA Polymerase is activated by a 15 min incubation step at 95°C. This prevents extension of non-specifically annealed primers and primer-dimers formed at low temperatures during PCR setup. The enzyme has 5->3' polymerase and exonuclease activity but lacks 3'->5' exonuclease activity.

#### Features :

- Exceptional stability at room temperature
- Increased sensitivity, specificity and yield
- Wide range of buffers and an enhancer for personal optimization
- Supply of active enzyme throughout the entire PCR

**Applications :**

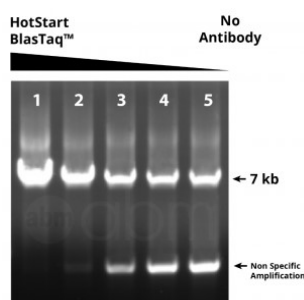
- Hot Start PCR
- Primer extension
- TA cloning

01-02-00500	500 U	140,00 € HT
01-02-01000	1000 U	260,00 € HT

*BlasTaq™ HotStart DNA Polymerase*

**BlasTaq™ HotStart DNA Polymerase** is a strategically-engineered, next generation Taq Polymerase that has rapid extension rates, robust performance, and contains a proprietary antibody that blocks polymerase activity at low temperatures. HotStart allows for a convenient reaction set-up at room temperature without non-specific amplification and primer dimer formation. With specialized reaction conditions, this polymerase provides increased processivity, yields, and sensitivity, while shortening reaction times by up to 70%, compared to wild-type Taq DNA polymerase.

During the initial denaturation step, the antibody dissociates from the DNA polymerase and restores enzyme activity. This feature significantly reduces non-specific product formation that would otherwise compete for reagent availability **offering higher specificity and improved yield of PCR products**. BlasTaq™ has 5'-3' polymerase and 5'-3' exonuclease activities, lacks 3'-5' exonuclease activity, and produces 3'-dA-tailed amplicons. PCR products made with BlasTaq™ can be used with TA cloning vectors.



**BlasTaq™ HotStart DNA polymerase eliminates non-specific amplification.** BlasTaq™ HotStart DNA Polymerase (Cat. No. AM-G595) was used to amplify a 7 kb target. The antibody concentration was decreased incrementally from lanes 1-5. Lane 1 is our BlasTaq™ HotStart formulation and lane 5 contains no antibody

AM-G595	400 T (200 µl)	136,00 € HT
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High Fidelity Long PCR*Phanta Max Super-Fidelity DNA Polymerase*

Phanta Max Super-Fidelity DNA Polymerase is an upgraded version of Phanta Super-Fidelity DNA Polymerase. Compared with the previous generation, Phanta Max has added the unique elongation factor, specificity-enhancing factor and plateau phase anti-inhibitor factor, which greatly improves the long-fragment amplification ability, amplification specificity and amplification yield. Phanta Max can efficiently amplify up to 40 kb simple templates (e.g. λDNA, plasmids), 20 kb complex templates (e.g. genomic DNA) and 10 kb cDNA. The amplification error rate of Phanta Max is 128-fold lower than that of conventional Taq DNA Polymerase. In addition, Phanta Max has a good resistance to PCR inhibitors and can be used for direct PCR amplification of bacteria, fungi, plant tissues, animal tissues, and even whole blood samples. Phanta Max contains two monoclonal antibodies inhibiting the 5'→3' polymerase activity and 3'→5' exonuclease activity at room temperature, which enable it to perform hot start PCR with great specificity. Amplification products are blunt-ended.

**Features**

- **Ultra-high fidelity:** ~128X higher than Taq DNA Polymerase
- **Longer amplicon lengths:** Up to 40 kb simple templates, 10 kb cDNA and 20 kb gDNA
- **Robust performance:** Superior specificity, sensitivity, and yields
- **Broad Compatibility:** Suitable for complex samples & GC-rich systems

VA-P505-d1	100 T (50 µl/T)	138,00 € HT
VA-P505-d2	500 T (50 µl/T)	505,00 € HT
VA-P505-d3	1000 T (50 µl/T)	949,00 € HT

Components	VA-P505-d1 (100 U)	VA-P505-d2 (500 U)	VA-P505-d3 (1 000 U)
Phanta Max Super-Fidelity DNA Polymerase (1 U/ $\mu$ l)	100 $\mu$ l		
2 $\times$ Phanta Max Buffer	2 $\times$ 1.25 ml	5 $\times$ P505-d1	10 $\times$ P505-d1
dNTP Mix (10 mM each)	100 $\mu$ l		
10 $\times$ Loading buffer	1.25 ml		

### Phanta Max Master Mix

2 $\times$  Phanta Max Master Mix contains Phanta Max Super-Fidelity DNA Polymerase, dNTP, and an optimized buffer system. The amplification can start only with the addition of primer and template, thereby easing PCR setup and improving reproducibility. Protective agents in the 2 $\times$  Phanta Max Master Mix enable the resistance to repeated freeze-thaw cycles. Amplification will generate blunt-ended products.

VA-P515-01	1 ml	100,00 € HT
VA-P515-02	5 $\times$ 1 ml	271,00 € HT
VA-P515-03	15 $\times$ 1 ml	759,00 € HT

### Phanta Max Master Mix (Dye Plus)

2 $\times$  Phanta Max Master Mix (Dye Plus) contains Phanta Max Super-Fidelity DNA Polymerase, dNTP, an optimized buffer system, and loading dye. The amplification can start only with the addition of primer and template, thereby easing PCR setup and improving reproducibility. Protective agents in the 2 $\times$  Phanta Max Master Mix enable the resistance to repeated freeze-thaw cycles. Amplification will generate blunt-ended products.

VA-P525-01	1 ml	100,00 € HT
VA-P525-02	5 $\times$ 1 ml	271,00 € HT
VA-P525-03	15 $\times$ 1 ml	759,00 € HT

### 2 $\times$ Phanta<sup>®</sup> Flash Master Mix

2  $\times$  Phanta Flash Master Mix is a new generation superior enzyme based on Phanta Flash Super-Fidelity DNA Polymerase. Through directed optimization of Phanta DNA Polymerase, Phanta Flash Super-Fidelity DNA Polymerase has the characteristics of rapid amplification (4 - 5 sec/kb) while maintaining high fidelity and yield. The amplification error rate of Phanta Flash Super-Fidelity DNA Polymerase is 81-fold lower than that of conventional Taq DNA Polymerase. Matched with optimized buffer system, this kit can achieve high amplification specificity. And it has excellent compatibility with crude samples, templates with uracil and GC-rich system (primer/template). This kit contains two types of monoclonal antibodies that inhibit the 5' $\rightarrow$ 3' polymerase activity and 3' $\rightarrow$ 5' exonuclease activity at room temperature, enabling it to perform hot start PCR with great specificity. It contains all required reaction components (Phanta Flash Super-Fidelity DNA Polymerase, dNTP and optimized buffer), except primers and templates, thereby simplifying the operation process and improving the detection throughput and repeatability. Amplification will generate blunt-ended products.

#### Features

- **High fidelity:** ~81X higher than Taq DNA Polymerase
- **Flash amplification:** Extension speed up to 5 sec/kb
- **Robust performance:** Superior specificity, sensitivity, and yields
- **Broad compatibility:** Suitable for complex samples & GC-rich systems

VA-P510-01	1 ml	124,00 € HT
VA-P510-02	5 $\times$ 1 ml	338,00 € HT
VA-P510-03	15 $\times$ 1 ml	949,00 € HT

### 2 $\times$ Phanta<sup>®</sup> Flash Master Mix Dye Plus

Same as above containing a dye for direct gel loading

VA-P520-01	1 ml	124,00 € HT
VA-P520-02	5 $\times$ 1 ml	338,00 € HT
VA-P520-03	15 $\times$ 1 ml	949,00 € HT



*MegaFi™ Pro Fidelity DNA Polymerase*

**2000X lower error rates, 3X more affordable!**

MegaFi™ Pro Fidelity DNA Polymerase elevates the current standards for specific, sensitive, robust, and high-fidelity PCR performance. This strategically-engineered polymerase is partnered with a monoclonal antibody which inhibits 5' → 3' polymerase activity and 3' → 5' exonuclease activity at room temperature allowing for highly specific Hot Start reactions. It has exceptional sensitivity and can amplify even the most difficult templates (compared to the leading competitors). Furthermore, MegaFi™ Pro boasts of its high fidelity and ultralow error rates (over 2,000X less than Taq polymerase, representing the lowest error rate on the market), making it incredibly useful for a variety of PCR applications demanding high fidelity, including Next Generation Sequencing, molecular cloning, or diagnostics

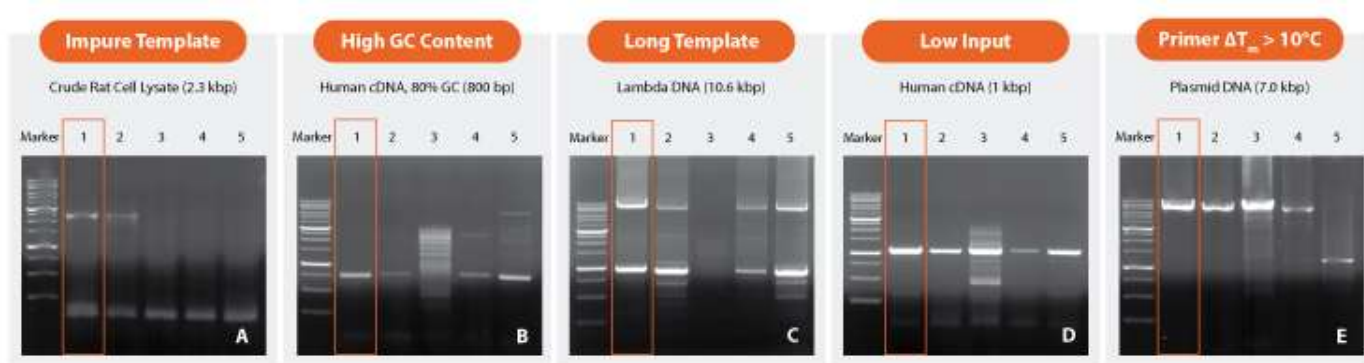
**Applications**

- Ultra High-fidelity PCR
- Next Generation Sequencing
- Accurate CRISPR Edit Detection
- Mutagenesis
- kbp plasmid template amplified using primers that had a  $\Delta T_m$  of 10.5 °C

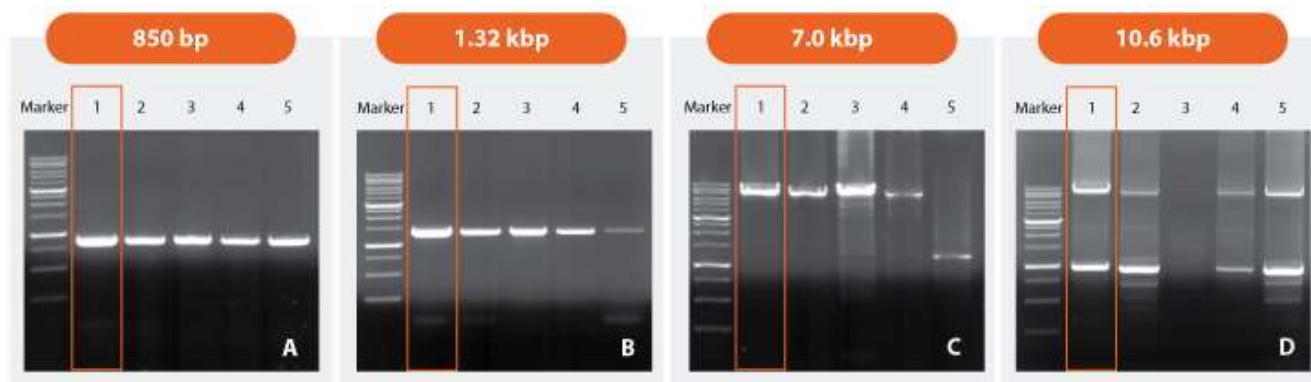
AM-G886	400 T (200 µl)	175,00 € HT
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**MegaFi™ Pro Fidelity Polymerase** is supplied with 2X MegaFi™ Pro Buffer containing 2 mM Mg<sup>2+</sup>

**MegaFi™ Pro Fidelity Polymerase (#AM-G886/AM-G887) enables amplification of difficult templates.** PCR amplification using abm's MegaFi™ Pro Fidelity DNA polymerase (#AM-G886/AM-G887) (orange box, lane 1) of various targets vs competitor polymerases (lanes 2 to 5) followed by electrophoresis on a 1% agarose gel (A) Impure template : ~2.3 kbp template of crude Rat Cell Lysate. (B) High GC content : 800 bp human gDNA template with 80% GC content. (C) Long template : 10.6 kbp Lambda DNA template. (D) Low input : 1.0 kbp Human cDNA template generate from reverse transcription of a 1.0 kbp fragment at the 5' end of an mRNA transcript. (E) Primer  $\Delta T_m > 10^\circ C$  : 7.0 kbp plasmid template amplified using primers that had a  $\Delta T_m$  of 10.5 °C



**MegaFi™ Pro Fidelity Polymerase (#AM-G886/AM-G887) enables amplification of a broad range of target lengths.** PCR amplification using abm's MegaFi™ Pro Fidelity DNA polymerase (#AM-G886/AM-G887) (orange box, lane 1) of various targets vs competitor polymerases (lanes 2 to 5) followed by electrophoresis on a 1% agarose gel (A) 10 ng of a 850 bp Human cDNA template. (B) 0.5 pg of a 1.32 kbp plasmid template. (C) 10 ng of a 7.0 kbp plasmid template. (D) 10 ng of a 10.6 kbp λDNA template



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### MegaFi™ Pro Fidelity 2X PCR MasterMix

**NEW!**

**MegaFi™ Pro Fidelity 2X PCR MasterMix** contains the new MegaFi™ Pro Fidelity DNA polymerase in the 2X MegaFi™ Pro Reaction Buffer allowing visualisation by ethidium bromide or SafeView™ (#AM-G108) staining

#### Features:

- 2000X lower error rates than regular Taq
- Hot Start reactions
- Amplifies difficult templates
- Contains gel loading dye

AM-G887	800 T (10.0 ml)	355,00 € HT
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### Ultra DNA Polymerase

**Robust and fast DNA Polymerase with enhanced fidelity also known as Phusion High-Fidelity DNA Polymerase**

Ultra DNA Polymerase is a genetically optimized DNA polymerase for robust, fast, and accurate amplification, even with difficult or GC-rich DNA templates. The polymerase is based on Pfu with a fused DNA binding domain.

The polymerase is tolerant against various inhibitors allowing stable amplification with minimized assay optimization.

The enhanced processivity guarantees highly efficient amplification and makes the enzyme the ideal choice for routine applications in analytical or diagnostic assays, cloning and PCR with long or difficult templates.

With a 2x increased extension rate and a 50x increased fidelity compared to Taq, Ultra DNA Polymerase generates improved product yields at high speed without compromising accuracy.

#### Content:

Ultra DNA Polymerase

2.0 units/μl High Fidelity Polymerase in 20 mM Tris-HCl, 100 mM KCl, 0.1 mM EDTA, 1 mM DTT, 0.5 % Tween-20, 0.5 % Nonidet P-40, 50% (v/v) Glycerol, pH 8.0 (25 °C) and 0.2 mg/ml BSA

Ultra DNA Buffer: 5x conc.

JE-PCR-391S	100 U	142,00 € HT
JE-PCR-391L	5 x 100 U	568,00 € HT

### High fidelity Polymerase

Thermostable DNA polymerase for high accuracy - Thermus species, recombinant, E. coli

High Fidelity Polymerase is based on a blend of Taq DNA polymerase and a proofreading enzyme specially designed for highly accurate and efficient amplification. It shows excellent results with extremely long (up to 30 kb), GC-rich or other difficult templates. The enzyme blend includes a highly processive 5'->3' DNA polymerase and possesses a 5'->3' polymerization-dependent exonuclease replacement activity. Its inherent 3'->5' exonuclease proofreading activity results in a greatly increased fidelity of DNA synthesis compared to Taq polymerase. The enzyme is highly purified and free of bacterial DNA.

**Fidelity of the enzyme:** High Fidelity Polymerase is characterized by a 4-fold higher fidelity compared to Taq polymerase.

Error rate of High Fidelity Polymerase =  $3.4 \times 10^{-6}$

#### Content:

- **High Fidelity Pol** (red cap): 2.5 units/μl high fidelity polymerase in storage buffer
- **High fidelity buffer** (green cap): 10X conc.

JE-PCR-204S	100 U	82,00 € HT
JE-PCR-204L	500 U	329,00 € HT

*High fidelity Polymerase core kit*

High Fidelity Core Kit contains all reagents required for PCR (except template and primer) in one box combining simple handling with high flexibility. The premium quality polymerase, ultrapure dNTPs and the optimized complete reaction buffer ensure superior amplification results.

High Fidelity Pol is based on a blend of Taq DNA polymerase and a proofreading enzyme specially designed for highly accurate and efficient amplification. It shows excellent results with extremely long (up to 30 kb), GC-rich or other difficult templates.

The enzyme blend includes a highly processive 5'→3' DNA polymerase and possesses a 5'→3' polymerization-dependent exonuclease replacement activity. Its inherent 3'→5' exonuclease proofreading activity results in a greatly increased fidelity of DNA synthesis compared to Taq polymerase.

The enzyme is highly purified and free of bacterial DNA.

**Fidelity of the enzyme:** High Fidelity Pol is characterized by a 4-fold higher fidelity compared to Taq polymerase.

Error rate of High Fidelity Polymerase =  $3.4 \times 10^{-6}$

JE-PCR-234S	100 U	93,00 € HT
JE-PCR-234L	500 U	371,00 € HT

**Content :**

- High Fidelity Pol (red cap): 2.5 units/μl High Fidelity Polymerase in storage buffer
- dNTP Mix (white cap): 10 mM each dNTP (dATP, dCTP, dGTP, dTTP)
- High Fidelity Buffer (green cap): 10x conc.

## Reagents

### Agarose

#### Agarose DNA grade

This high gel strength agarose is especially designed for a wide range of molecular biology techniques from conventional constant field to Pulse Field Gel Electrophoresis (PFGE).

Gel concentration (%)	TAE buffer 1 x (bp)	TBE buffer 1 x (bp)
0.8	15 000 - 1 000	9 000-1 000
1	10 000 - 400	6 000 - 500
1.8	5 000 - 200	3 000 - 200

- Has a great versatility at working concentration of 0.4-2 % in all buffer systems.
- DNA fragments from 50 kb to 200 bp may be separated through conventional electrophoresis.
- Suitable for blotting assays.
- No detectable DNase or RNase activity

D5-A	25 g	29,00 €HT
D5-F	50 g	45,00 €HT
D5-C	100 g	69,00 €HT
D5-D	250 g	149,00 €HT
D5-E	500 g	259,00 €HT
D5	1 kg	465,00 €HT

#### Specifications

- EEO < 0.120
  - Water content < 7 %
  - Gelling temperature at 1.5 % : 34-38 °C
  - Sulfate < 0.12 %
  - Gel strength 1 % > 1 800 g/cm<sup>2</sup>
  - Gel strength 1.5 % > 3 200 g/cm<sup>2</sup>
  - Ash < 0.25 %
  - Melting point 1.5 % : 87°C
- Tested for absence of inhibitors to restriction enzymes and ligases

#### Agarose for routine analysis

- DNA fragments from 23 kb to 100 bp may be separated through conventional electrophoresis
- Suitable for northern, southern and blotting assays.
- No detectable DNase or RNase activity

Gel concentration (%)	TAE buffer 1 x (bp)	TBE buffer 1 x (bp)
<b>0.8</b>	8 000 - 400	9 000-800
<b>1</b>	1 000 - 800	8 000 - 400

#### Specifications

- EEO < 0.120
- Water content < 7 %
- Ash < 0.25 %
- Gel strength 1 % > 1 200 g/cm<sup>2</sup>
- Gelling point 34 °C
- Sulfate < 0.14 %

LE-8200-A	100 g	51,00 €HT
LE-8200-C	250 g	109,00 €HT
LE-8200-B	500 g	199,00 €HT
LE-8200	1 kg	349,00 €HT

### Buffers

#### 25 mM MgCl<sub>2</sub>

25 mM MgCl<sub>2</sub> can be used for optimization of magnesium ion concentration in PCR reaction.

EUA00154	5x1,8 ml	27,00 € HT
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Quality control: Amplification of a single-copy gene from human genomic DNA

#### 6 x Loading Dye Solution

Composition of 6 x Solution : 10 mM Tris-HCl (pH 7.6), 0.03% bromophenol blue, 0.03% xylene cyanol FF, 60% glycerol, 60 mM EDTA.

10-0111	5x1 ml	60,00 € HT
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In 1% agarose gels bromophenol blue co-migrates with ~300 bp DNA, while xylene cyanol FF co-migrates with ~400 bp DNA. recommended for loading of fragment larger than 500 bp

### 6 x Orange Loading Dye Solution

Composition of 6X Solution : 10 mM Tris-HCl (pH 7.6), 0.15% orange G, 0.03% xylene cyanol FF, 60% glycerol, 60 mM EDTA.

Agarose concentration %	Xylene cyanol FF	Bromophenol blue	Orange G
0.7-1.7	~4 000 bp	~300 bp	~50 bp
2.5-3	~800 bp	~100 bp	~30 bp

Note: In 1% agarose gels orange G co-migrates with ~50 bp DNA, while xylene cyanol FF co-migrates with ~4000 bp DNA; recommended for loading of fragment smaller than 500 bp.

10-0211	5x1 ml	40,00 € HT
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### 6 x Green Loading Dye Solution

Contains orange G and xylene cyanol FF as tracking dyes and is recommended for loading of fragment from 100 to 2000 bp

JE-PCR-254-gr	5x1,8 ml	58,00 € HT
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### Gel Loading Dye with DNA Stain

Loading buffer for agarose or polyacrylamide gels with Evagreen fluorescent DNA staining;

Loading Buffers with DNA Stain are formulated to facilitate loading of DNA samples into the wells of agarose and polyacrylamide gels. The loading buffers contain EvaGreen™ DNA Stain a fluorescent DNA intercalator dye specially developed for DNA analysis applications. Its high quantum yield and excellent stability makes it the ideal fluorophore for DNA staining applications and a superior replacement for the widely used dyes Ethidium Bromide or SYBR® Green.

Blue	JE-PCR-274	5x1.8 ml	78,00 € HT
Green	JE-PCR-275	5x1.8 ml	78,00 € HT
Orange	JE-PCR-276	5x1.8 ml	78,00 € HT

### TAE Solution

TAE buffer is used for DNA agarose gel electrophoresis and for non-denaturing RNA agarose gel electrophoresis

Tris Acetate buffer with EDTA (pH approx. 8,3) for use in electrophoresis. The buffer should be diluted 1X with water for normal use. The 25 X solution contains : Tris 1M, Acetate 0,5M and EDTA 25mM. Store at room temperature

#### 10 X Solution

Filtered 0.2µm and prepared with 18 megaohm water Delivered with tap (on request : additionnel cost 6 €)

EU0202-A	1 L	12,00 € HT
EU0202-B	2,5 L	23,00 € HT
EU0202	5 L	35,00 € HT

#### 25 X Solution

Filtered 0.2µm and prepared with 18 megaohm water Delivered with tap (on request : additionnel cost 6 €)

EU0200-A	1 L	21,00 € HT
EU0200-B	2,5 L	43,00 € HT
EU0200	5 L	81,00 € HT

#### 50 x Solution

Filtered 0.2µm and prepared with 18 megaohm water Delivered with tap (on request : additionnel cost 6 €)

EU0201-A	1 L	29,00 € HT
EU0201-B	2,5 L	59,00 € HT
EU0201	5 L	110,00 € HT

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### *TBE Solution*

Tris Borate buffer with EDTA pH approx. 8,3.

For DNA and RNA gel Electrophoresis. Can be used as an alternative to TAE with higher buffering capacity . Supplied as a 10 X or a 5X solution, the buffer should be diluted with water.

The 10x solution contains : Tris 0,89M, Boric acid 0,89M and EDTA 20mM. Filtered 0.2µm and prepared with 18 megaohm water

### *5 X Solution*

Filtered 0.2µm and prepared with 18 megaohm water. Delivered with tap (on request : additionnel cost 6 €)

ET030-A	1 L	15,00 €HT
ET030-B	2,5 L	25,00 €HT
ET030	5 L	35,00 €HT

### *10 X Solution*

Filtered 0.2µm and prepared with 18 megaohm water. Delivered with tap (on request : additionnel cost 6 €)

ET020-A	1 L	17,00 €HT
ET020-B	2,5 L	32,00 €HT
ET020-C	5 L	55,00 €HT
ET020	2x5 L	97,00 €HT

### *Water, DEPC-Treated*

H2O M.W. : 18.02 CAS : [7735-18-5]

DEPC-treated Water is deionized, high quality, molecular biology grade water.

BI-D0121-500ML	500 ml	26,00 €HT
BI-D0121-4X500ML	4x500 ml	67,00 €HT

No detectable RNase and DNase activity, tested in a transcription reaction. (molecular biology grade)

Water, Sterile, Nuclease free

### *Water (PCR)*

PCR Water is RNase, DNase and DNA contamination free. It is sterile and UV irradiated. Manufactured and tested for use as a component in PCR reactions. Validated as well for use with highly sensitive PCR reaction including those with eubacterial primer sets. Stored in convenient 2 mL tubes to avoid unnecessary melting and freezing of the whole water supply.

EUA01201	10x1.8 ml	50,00 € HT
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Quality control : Free of RNase, DNase and DNA contamination

## Control reagents & additives

### *Human DNA*

Positive control templates for PCR, conc. 200 ng/µl

JE-PCR-261	20 µg	112,00 € HT
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### *Lambda DNA*

Positive control templates for PCR, conc. 100 ng/µl

JE-PCR-259	1 ml	69,00 € HT
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# qPCR

## qPCR cyclers compatibility chart

Producing Company	Name of Machine	Cat. No.	Product Name	
Agilent	Mx3000P <sup>®</sup> qPCR System	AM-G891 VA-Q711	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR <sup>®</sup> qPCR Master Mix	
		AM-G890 VA-Q513 AM-G596 VA-Q811	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 BlasTaq <sup>™</sup> Probe One-Step RT-qPCR ChamQ Geno-SNP Probe Master Mix	
		Mx3005P <sup>®</sup> qPCR System	AM-G891 VA-Q711 08-24-00001 08-36-00001	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR <sup>®</sup> qPCR Master Mix 5x HOT FIREPol <sup>®</sup> EvaGreen <sup>®</sup> qPCR Mix Plus (ROX) 5x HOT FIREPol <sup>®</sup> EvaGreen <sup>®</sup> qPCR Supermix
			AM-G890 VA-Q513 08-14-00001 08-17-00001 AM-G596 VA-Q811	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol <sup>®</sup> Probe qPCR Mix Plus (ROX) 5x HOT FIREPol <sup>®</sup> Probe Universal qPCR Mix BlasTaq <sup>™</sup> Probe One-Step RT-qPCR ChamQ Geno-SNP Probe Master Mix
	Mx4000 <sup>®</sup> qPCR System		AM-G891 VA-Q711 08-24-00001 08-36-00001	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR <sup>®</sup> qPCR Master Mix 5x HOT FIREPol <sup>®</sup> EvaGreen <sup>®</sup> qPCR Mix Plus (ROX) 5x HOT FIREPol <sup>®</sup> EvaGreen <sup>®</sup> qPCR Supermix
			AM-G890 VA-Q513 08-14-00001 08-17-00001 AM-G596 VA-Q811	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol <sup>®</sup> Probe qPCR Mix Plus (ROX) 5x HOT FIREPol <sup>®</sup> Probe Universal qPCR Mix BlasTaq <sup>™</sup> Probe One-Step RT-qPCR ChamQ Geno-SNP Probe Master Mix
		AriaMx Realtime PCR System	AM-G891	BlasTaq 2X qPCR MasterMix
			AM-G890	BlasTaq Probe 2X qPCR MasterMix
	Applied Biosystems	StepOne <sup>™</sup> Real-Time PCR System	AM-G891 VA-Q711 08-24-00001 08-36-00001	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR <sup>®</sup> qPCR Master Mix 5x HOT FIREPol <sup>®</sup> EvaGreen <sup>®</sup> qPCR Mix Plus (ROX) 5x HOT FIREPol <sup>®</sup> EvaGreen <sup>®</sup> qPCR Supermix
			AM-G890 VA-Q513 08-14-00001 08-17-00001 AM-G596 VA-Q811	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol <sup>®</sup> Probe qPCR Mix Plus (ROX) 5x HOT FIREPol <sup>®</sup> Probe Universal qPCR Mix BlasTaq <sup>™</sup> Probe One-Step RT-qPCR ChamQ Geno-SNP Probe Master Mix

Producing Company	Name of Machine	Cat. No.	Product Name
	StepOnePlus™ Real-Time PCR System	AM-G891 VA-Q711 08-24-00001 08-36-00001  AM-G890 VA-Q513 08-14-00001 08-17-00001 AM-G596 VA-Q811	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR®qPCR Master Mix 5x HOT FIREPol® EvaGreen® qPCR Mix Plus (ROX) 5x HOT FIREPol® EvaGreen® qPCR Supermix  BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol® Probe qPCR Mix Plus (ROX) 5x HOT FIREPol® Probe Universal qPCR Mix BlasTaq™ Probe One-Step RT-qPCR ChamQ Geno-SNP Probe Master Mix
	7500 Real-Time PCR System	AM-G891 VA-Q711 08-24-00001 08-36-00001  AM-G890 VA-Q513 08-14-00001 08-17-00001 AM-G596 VA-Q811	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR®qPCR Master Mix 5x HOT FIREPol® EvaGreen® qPCR Mix Plus (ROX) 5x HOT FIREPol® EvaGreen® qPCR Supermix  BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V25x HOT FIREPol® Probe qPCR Mix Plus (ROX) 5x HOT FIREPol® Probe Universal qPCR Mix BlasTaq™ Probe One-Step RT-qPCR ChamQ Geno-SNP Probe Master Mix
	7500 Fast Real-Time PCR System	AM-G891 VA-Q711 08-24-00001 08-36-00001  AM-G890 VA-Q513 08-14-00001 08-17-00001 AM-G596 VA-Q811	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR®qPCR Master Mix 5x HOT FIREPol® EvaGreen® qPCR Mix Plus (ROX) 5x HOT FIREPol® EvaGreen® qPCR Supermix  BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol® Probe qPCR Mix Plus (ROX) 5x HOT FIREPol® Probe Universal qPCR Mix BlasTaq™ Probe One-Step RT-qPCR ChamQ Geno-SNP Probe Master Mix
	7500 Fast Dx Real-Time PCR Instrument	AM-G891  AM-G890	BlasTaq 2X qPCR MasterMix  BlasTaq Probe 2X qPCR MasterMix
	7500 Real-Time PCR System for Human Identification	AM-G891  AM-G890	BlasTaq 2X qPCR MasterMix  BlasTaq Probe 2X qPCR MasterMix
	7300 Real-Time PCR System	AM-G891 VA-Q711 08-24-00001 08-36-00001  AM-G890 VA-Q513 08-14-00001 08-17-00001 AM-G596 VA-Q811	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR®qPCR Master Mix 5x HOT FIREPol® EvaGreen® qPCR Mix Plus (ROX) 5x HOT FIREPol® EvaGreen® qPCR Supermix  BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol® Probe qPCR Mix Plus (ROX) 5x HOT FIREPol® Probe Universal qPCR Mix BlasTaq™ Probe One-Step RT-qPCR ChamQ Geno-SNP Probe Master Mix

Producing Company	Name of Machine	Cat. No.	Product Name
	Viia™ 7 Real-Time PCR System	AM-G891 VA-Q711 08-24-00001 08-36-00001 AM-G598	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR®qPCR Master Mix 5x HOT FIREPol® EvaGreen® qPCR Mix Plus (ROX) 5x HOT FIREPol® EvaGreen® qPCR Supermix BlasTaq™ One-Step RT-qPCR
		AM-G890 VA-Q513 08-14-00001 08-17-00001 AM-G596 VA-Q811	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol® Probe qPCR Mix Plus (ROX) 5x HOT FIREPol® Probe Universal qPCR Mix BlasTaq™ Probe One-Step RT-qPCR ChamQ Geno-SNP Probe Master Mix
	7900HT Fast Real-Time PCR System	AM-G891 VA-Q711 08-24-00001 08-36-00001	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR®qPCR Master Mix 5x HOT FIREPol® EvaGreen® qPCR Mix Plus (ROX) 5x HOT FIREPol® EvaGreen® qPCR Supermix
		AM-G890 VA-Q513 08-14-00001 08-17-00001 AM-G596 VA-Q811	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol® Probe qPCR Mix Plus (ROX) 5x HOT FIREPol® Probe Universal qPCR Mix BlasTaq™ Probe One-Step RT-qPCR ChamQ Geno-SNP Probe Master Mix
	OpenArray® Real-Time PCR Platform	AM-G891  AM-G890 AM-G596	BlasTaq 2X qPCR MasterMix BlasTaq Probe 2X qPCR MasterMix BlasTaq™ Probe One-Step RT-qPCR
	QuantStudio™ 12K Flex system	AM-G891 08-24-00001 08-36-00001	BlasTaq 2X qPCR MasterMix 5x HOT FIREPol® EvaGreen® qPCR Mix Plus (ROX) 5x HOT FIREPol® EvaGreen® qPCR Supermix
		AM-G890 08-14-00001 08-17-00001 AM-G596	BlasTaq Probe 2X qPCR MasterMix 5x HOT FIREPol® Probe qPCR Mix Plus (ROX) 5x HOT FIREPol® Probe Universal qPCR Mix BlasTaq™ Probe One-Step RT-qPCR
	PRISM® 7000 Sequencing Detection System	AM-G891 VA-Q711 08-24-00001 08-36-00001	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR®qPCR Master Mix 5x HOT FIREPol® EvaGreen® qPCR Mix Plus (ROX) 5x HOT FIREPol® EvaGreen® qPCR Supermix
		AM-G890 VA-Q513 08-14-00001 08-17-00001 AM-G596 VA-Q811	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol® Probe qPCR Mix Plus (ROX) 5x HOT FIREPol® Probe Universal qPCR Mix BlasTaq™ Probe One-Step RT-qPCR ChamQ Geno-SNP Probe Master Mix
	PRISM® 7700 Sequencing Detection System	AM-G891 VA-Q711 08-24-00001 08-36-00001	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR®qPCR Master Mix 5x HOT FIREPol® EvaGreen® qPCR Mix Plus (ROX) 5x HOT FIREPol® EvaGreen® qPCR Supermix
		AM-G890 VA-Q513 08-14-00001 08-17-00001 AM-G596 VA-Q811	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol® Probe qPCR Mix Plus (ROX) 5x HOT FIREPol® Probe Universal qPCR Mix BlasTaq™ Probe One-Step RT-qPCR ChamQ Geno-SNP Probe Master Mix

Producing Company	Name of Machine	Cat. No.	Product Name
	PRISM <sup>®</sup> 7900 Sequencing Detection System	AM-G891 VA-Q711 08-24-00001 08-36-00001	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR <sup>®</sup> qPCR Master Mix 5x HOT FIREPol <sup>®</sup> EvaGreen <sup>®</sup> qPCR Mix Plus (ROX) 5x HOT FIREPol <sup>®</sup> EvaGreen <sup>®</sup> qPCR Supermix
		AM-890 VA-Q513 08-14-00001 08-17-00001 AM-G596 VA-Q811	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol <sup>®</sup> Probe qPCR Mix Plus (ROX) 5x HOT FIREPol <sup>®</sup> Probe Universal qPCR Mix BlasTaq <sup>™</sup> Probe One-Step RT-qPCR ChamQ Geno-SNP Probe Master Mix
	Gene Amp 5700	AM-G891 VA-Q711 08-24-00001 08-36-00001	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR <sup>®</sup> qPCR Master Mix 5x HOT FIREPol <sup>®</sup> EvaGreen <sup>®</sup> qPCR Mix Plus (ROX) 5x HOT FIREPol <sup>®</sup> EvaGreen <sup>®</sup> qPCR Supermix
		AM-G890 VA-Q513 08-14-00001 08-17-00001 VA-Q811	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol <sup>®</sup> Probe qPCR Mix Plus (ROX) 5x HOT FIREPol <sup>®</sup> Probe Universal qPCR Mix ChamQ Geno-SNP Probe Master Mix
Bio-Rad Laboratories	CFX96 Touch <sup>™</sup> Real-Time PCR Detection System	AM-G891 VA-Q711 08-25-00001 08-36-00001	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR <sup>®</sup> qPCR Master Mix 5x HOT FIREPol <sup>®</sup> EvaGreen <sup>®</sup> qPCR Mix Plus (no ROX) 5x HOT FIREPol <sup>®</sup> EvaGreen <sup>®</sup> qPCR Supermix
		AM-G890 VA-Q513 08-15-00001 08-17-00001 AM-G596 VA-Q811	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol <sup>®</sup> Probe qPCR Mix Plus (no ROX) 5x HOT FIREPol <sup>®</sup> Probe Universal qPCR Mix BlasTaq <sup>™</sup> Probe One-Step RT-qPCR ChamQ Geno-SNP Probe Master Mix
	CFX384 Touch <sup>™</sup> Real-Time PCR Detection System	AM-G891 VA-Q711 08-25-00001 08-36-00001	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR <sup>®</sup> qPCR Master Mix 5x HOT FIREPol <sup>®</sup> EvaGreen <sup>®</sup> qPCR Mix Plus (no ROX) 5x HOT FIREPol <sup>®</sup> EvaGreen <sup>®</sup> qPCR Supermix
		AM-G890 VA-Q513 08-15-00001 08-17-00001 AM-G596	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol <sup>®</sup> Probe qPCR Mix Plus (no ROX) 5x HOT FIREPol <sup>®</sup> Probe Universal qPCR Mix BlasTaq <sup>™</sup> Probe One-Step RT-qPCR
	MyiQ Thermal Cycler	VA-Q711 08-25-00001 08-36-00001	ChamQ Universal SYBR <sup>®</sup> qPCR Master Mix 5x HOT FIREPol <sup>®</sup> EvaGreen <sup>®</sup> qPCR Mix Plus (no ROX) 5x HOT FIREPol <sup>®</sup> EvaGreen <sup>®</sup> qPCR Supermix
		VA-Q513 08-15-00001 08-17-00001 VA-Q811	AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol <sup>®</sup> Probe qPCR Mix Plus (no ROX) 5x HOT FIREPol <sup>®</sup> Probe Universal qPCR Mix ChamQ Geno-SNP Probe Master Mix

Producing Company	Name of Machine	Cat. No.	Product Name
	Chromo4™ Four-Color Real-Time Detector	AM-G891 VA-Q711 08-25-00001 08-36-00001	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR®qPCR Master Mix 5x HOT FIREPol® EvaGreen® qPCR Mix Plus (no ROX) 5x HOT FIREPol® EvaGreen® qPCR Supermix
		AM-G890 VA-Q513 08-15-00001 08-17-00001 AM-G596	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol® Probe qPCR Mix Plus (no ROX) 5x HOT FIREPol® Probe Universal qPCR Mix BlasTaq™ Probe One-Step RT-qPCR
	CFX Connect™ Real-Time PCR Detection System	AM-G891	BlasTaq 2X qPCR MasterMix
		AM-G890 AM-G596	BlasTaq Probe 2X qPCR MasterMix BlasTaq™ Probe One-Step RT-qPCR
	Opticon 2 - Continuous Fluorescence Detection System	AM-G891 VA-Q711 08-25-00001 08-36-00001	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR®qPCR Master Mix 5x HOT FIREPol® EvaGreen® qPCR Mix Plus (no ROX) 5x HOT FIREPol® EvaGreen® qPCR Supermix
		AM-G890 VA-Q513 08-15-00001 08-17-00001 AM-G596 VA-Q811	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol® Probe qPCR Mix Plus (no ROX) 5x HOT FIREPol® Probe Universal qPCR Mix BlasTaq™ Probe One-Step RT-qPCR ChamQ Geno-SNP Probe Master Mix
		AM-G891 VA-Q711 08-25-00001 08-36-00001	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR®qPCR Master Mix 5x HOT FIREPol® EvaGreen® qPCR Mix Plus (no ROX) 5x HOT FIREPol® EvaGreen® qPCR Supermix
		AM-G890 VA-Q513 08-15-00001 08-17-00001 AM-G596 VA-Q811	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol® Probe qPCR Mix Plus (no ROX) 5x HOT FIREPol® Probe Universal qPCR Mix BlasTaq™ Probe One-Step RT-qPCR ChamQ Geno-SNP Probe Master Mix
	MiniOpticon™ Real-Time PCR Detection System	AM-G891 VA-Q711 08-25-00001 08-36-00001	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR®qPCR Master Mix 5x HOT FIREPol® EvaGreen® qPCR Mix Plus (no ROX) 5x HOT FIREPol® EvaGreen® qPCR Supermix
		AM-G890 VA-Q513 08-15-00001 08-17-00001 AM-G596 VA-Q811	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol® Probe qPCR Mix Plus (no ROX) 5x HOT FIREPol® Probe Universal qPCR Mix BlasTaq™ Probe One-Step RT-qPCR ChamQ Geno-SNP Probe Master Mix
VA-Q711		ChamQ Universal SYBR®qPCR Master Mix	
iCycler iQ™	VA-Q513	AceQ Universal U+ Probe Mater Mix V2	
	VA-Q811	ChamQ Geno-SNP Probe Master Mix	
Corbett	Rotor Gene 3000	AM-G891 VA-Q711 08-25-00001 08-36-00001	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR®qPCR Master Mix 5x HOT FIREPol® EvaGreen® qPCR Mix Plus (no ROX) 5x HOT FIREPol® EvaGreen® qPCR Supermix
		AM-G890 VA-Q513 08-15-00001 08-17-00001 AM-G596 VA-Q811	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V25x HOT 5x HOT FIREPol® Probe qPCR Mix Plus (no ROX) 5x HOT FIREPol® Probe Universal qPCR Mix BlasTaq™ Probe One-Step RT-qPCR ChamQ Geno-SNP Probe Master Mix
	Rotor Gene 6200	AM-G891	BlasTaq 2X qPCR MasterMix
		AM-G890 AM-G596	BlasTaq Probe 2X qPCR MasterMix BlasTaq™ Probe One-Step RT-qPCR

Producing Company	Name of Machine	Cat. No.	Product Name	
	Rotor Gene 62H0	AM-G891	BlasTaq 2X qPCR MasterMix	
		AM-G890 AM-G596	BlasTaq Probe 2X qPCR MasterMix BlasTaq™ Probe One-Step RT-qPCR	
		AM-G891	BlasTaq 2X qPCR MasterMix	
	Rotor Gene 6500	AM-G890 AM-G596	BlasTaq Probe 2X qPCR MasterMix BlasTaq™ Probe One-Step RT-qPCR	
		AM-G891	BlasTaq 2X qPCR MasterMix	
	Rotor Gene 65H0	AM-G890 AM-G596	BlasTaq Probe 2X qPCR MasterMix BlasTaq™ Probe One-Step RT-qPCR	
		AM-G891	BlasTaq 2X qPCR MasterMix	
	Rotor Gene 6600	AM-G890 AM-G596	BlasTaq Probe 2X qPCR MasterMix BlasTaq™ Probe One-Step RT-qPCR	
		AM-G891	BlasTaq 2X qPCR MasterMix	
	Eppendorf	Mastercycler® ep realplex, Real-Time Thermal Cycler	AM-G891 VA-Q711	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR®qPCR Master Mix
			AM-G890 VA-Q513 AM-G596 VA-Q811	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 BlasTaq™ Probe One-Step RT-qPCR ChamQ Geno-SNP Probe Master Mix
			AM-G891 VA-Q711	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR®qPCR Master Mix
AM-G890 VA-Q513 AM-G596			BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 BlasTaq™ Probe One-Step RT-qPCR	
Mastercycler® ep realplex s, Real-Time Thermal Cycler		AM-G891	BlasTaq 2X qPCR MasterMix	
		AM-G890 VA-Q513 AM-G596	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 BlasTaq™ Probe One-Step RT-qPCR	
Mastercycler® ep realplex 4, Real-Time Thermal Cycler		AM-G891	BlasTaq 2X qPCR MasterMix	
		AM-G890 AM-G596	BlasTaq Probe 2X qPCR MasterMix BlasTaq™ Probe One-Step RT-qPCR	
Mastercycler® ep realplex 4s, Real-Time Thermal Cycler		AM-G891	BlasTaq 2X qPCR MasterMix	
		AM-G890 AM-G596	BlasTaq Probe 2X qPCR MasterMix BlasTaq™ Probe One-Step RT-qPCR	
Mastercycler Pro		AM-G891	BlasTaq 2X qPCR MasterMix	
		AM-G890 AM-G596	BlasTaq Probe 2X qPCR MasterMix BlasTaq™ Probe One-Step RT-qPCR	
Mastercycler Pro S	AM-G891	BlasTaq 2X qPCR MasterMix		
	AM-G890 AM-G596	BlasTaq Probe 2X qPCR MasterMix BlasTaq™ Probe One-Step RT-qPCR		
Mastercycler Pro 384	AM-G891	BlasTaq 2X qPCR MasterMix		
	AM-G890 AM-G596	BlasTaq Probe 2X qPCR MasterMix BlasTaq™ Probe One-Step RT-qPCR		
Mastercycler Nexus	AM-G891	BlasTaq 2X qPCR MasterMix		
	AM-G890 AM-G596	BlasTaq Probe 2X qPCR MasterMix BlasTaq™ Probe One-Step RT-qPCR		
Mastercycler Nexus gradient	AM-G891	BlasTaq 2X qPCR MasterMix		
	AM-G890 AM-G596	BlasTaq Probe 2X qPCR MasterMix BlasTaq™ Probe One-Step RT-qPCR		



Producing Company	Name of Machine	Cat. No.	Product Name	
	Mastercycler Nexus eco	AM-G891	BlasTaq 2X qPCR MasterMix	
		AM-G890 AM-G596	BlasTaq Probe 2X qPCR MasterMix BlasTaq™ Probe One-Step RT-qPCR	
		AM-G891	BlasTaq 2X qPCR MasterMix	
	Mastercycler Nexus flat	AM-G890 AM-G596	BlasTaq Probe 2X qPCR MasterMix BlasTaq™ Probe One-Step RT-qPCR	
		AM-G891	BlasTaq 2X qPCR MasterMix	
		AM-G890 AM-G596	BlasTaq Probe 2X qPCR MasterMix BlasTaq™ Probe One-Step RT-qPCR	
Fluidigm	BioMark™ HD System	AM-G891	BlasTaq 2X qPCR MasterMix	
		AM-G890 AM-G596	BlasTaq Probe 2X qPCR MasterMix BlasTaq™ Probe One-Step RT-qPCR	
		AM-G891	BlasTaq 2X qPCR MasterMix	
Illumina	Eco Real-Time PCR System	AM-G891	BlasTaq 2X qPCR MasterMix	
		AM-G890 AM-G596	BlasTaq Probe 2X qPCR MasterMix BlasTaq™ Probe One-Step RT-qPCR	
		AM-G891	BlasTaq 2X qPCR MasterMix	
Qiagen	Rotor-Gene™ Q - Pure Detection	AM-G891 VA-Q711 08-25-00001 08-36-00001	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR®qPCR Master Mix 5x HOT FIREPol® EvaGreen® qPCR Mix Plus (no ROX) 5x HOT FIREPol® EvaGreen® qPCR Supermix	
		AM-G890 VA-Q513 08-15-00001 08-17-00001 AM-G596 VA-Q811	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol® Probe qPCR Mix Plus (no ROX) 5x HOT FIREPol® Probe Universal qPCR Mix BlasTaq™ Probe One-Step RT-qPCR ChamQ Geno-SNP Probe Master Mix	
		AM-G891 VA-Q711 08-25-00001 08-36-00001	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR®qPCR Master Mix 5x HOT FIREPol® EvaGreen® qPCR Mix Plus (no ROX) 5x HOT FIREPol® EvaGreen® qPCR Supermix	
		AM-G890 VA-Q513 08-15-00001 08-17-00001 AM-G596 VA-Q811	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol® Probe qPCR Mix Plus (no ROX) 5x HOT FIREPol® Probe Universal qPCR Mix BlasTaq™ Probe One-Step RT-qPCR ChamQ Geno-SNP Probe Master Mix	
		AM-G891 VA-Q711 08-25-00001 08-36-00001	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR®qPCR Master Mix 5x HOT FIREPol® EvaGreen® qPCR Mix Plus (no ROX) 5x HOT FIREPol® EvaGreen® qPCR Supermix	
		AM-G890 VA-Q513 08-15-00001 08-17-00001 AM-G596 VA-Q811	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol® Probe qPCR Mix Plus (no ROX) 5x HOT FIREPol® Probe Universal qPCR Mix BlasTaq™ Probe One-Step RT-qPCR ChamQ Geno-SNP Probe Master Mix	
	Roche Diagnostics Ltd	LightCycler® 2.0 Instrument	AM-G891 08-26-00001	BlasTaq 2X qPCR MasterMix 5x HOT FIREPol® EvaGreen® qPCR Mix Plus (Capillary)
			AM-G890 VA-Q513 08-16-00001	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol® Probe qPCR Mix Plus (Capillary)
			AM-G891	BlasTaq 2X qPCR MasterMix
		LightCycler® 1.5 Instrument	AM-G890 VA-Q513	BlasTaqProbe qPCR MasterMix-no dye AceQ Universal U+ Probe Mater Mix V2
			AM-G891	BlasTaq 2X qPCR MasterMix
			AM-G890 VA-Q513 08-15-00001 08-17-00001	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol® Probe qPCR Mix Plus (no ROX) 5x HOT FIREPol® Probe Universal qPCR Mix
LightCycler® 96 System	AM-G891 08-25-00001 08-36-00001	BlasTaq 2X qPCR MasterMix 5x HOT FIREPol® EvaGreen® qPCR Mix Plus (no ROX) 5x HOT FIREPol® EvaGreen® qPCR Supermix		
	AM-G890 VA-Q513 08-15-00001 08-17-00001	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol® Probe qPCR Mix Plus (no ROX) 5x HOT FIREPol® Probe Universal qPCR Mix		
	AM-G891 08-25-00001 08-36-00001	BlasTaq 2X qPCR MasterMix 5x HOT FIREPol® EvaGreen® qPCR Mix Plus (no ROX) 5x HOT FIREPol® EvaGreen® qPCR Supermix		

Producing Company	Name of Machine	Cat. No.	Product Name		
	LightCycler® 480 System (system I)	AM-G891 VA-Q711 08-25-00001 08-36-00001	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR®qPCR Master Mix 5x HOT FIREPol® EvaGreen® qPCR Mix Plus (no ROX) 5x HOT FIREPol® EvaGreen® qPCR Supermix		
		AM-G890 VA-Q513 08-15-00001 08-17-00001 AM-G596 VA-Q811	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol® Probe qPCR Mix Plus (no ROX) 5x HOT FIREPol® Probe Universal qPCR Mix BlasTaq™ Probe One-Step RT-qPCR ChamQ Geno-SNP Probe Master Mix		
		LightCycler® 480 System (System II)	AM-G891 VA-Q711 08-25-00001 08-36-00001	BlasTaq 2X qPCR MasterMix ChamQ Universal SYBR®qPCR Master Mix 5x HOT FIREPol® EvaGreen® qPCR Mix Plus (no ROX) 5x HOT FIREPol® EvaGreen® qPCR Supermix	
			AM-G890 VA-Q513 08-15-00001 08-17-00001 AM-G596 VA-Q811	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol® Probe qPCR Mix Plus (no ROX) 5x HOT FIREPol® Probe Universal qPCR Mix BlasTaq™ Probe One-Step RT-qPCR ChamQ Geno-SNP Probe Master Mix	
			LightCycler® 1536 System	AM-G891	BlasTaq 2X qPCR MasterMix
				AM-G890 VA-Q513 AM-G596	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 BlasTaq™ Probe One-Step RT-qPCR
	LightCycler® Nano System			AM-G891 08-25-00001 08-36-00001	BlasTaq 2X qPCR MasterMix 5x HOT FIREPol® EvaGreen® qPCR Mix Plus (no ROX) 5x HOT FIREPol® EvaGreen® qPCR Supermix
			AM-G890 VA-Q513 08-15-00001 08-17-00001 AM-G596	BlasTaq Probe 2X qPCR MasterMix AceQ Universal U+ Probe Mater Mix V2 5x HOT FIREPol® Probe qPCR Mix Plus (no ROX) 5x HOT FIREPol® Probe Universal qPCR Mix BlasTaq™ Probe One-Step RT-qPCR	
		Thermo Scientific	PikoReal	AM-G891 08-25-00001 08-36-00001	BlasTaq 2X qPCR MasterMix 5x HOT FIREPol® EvaGreen® qPCR Mix Plus (no ROX) 5x HOT FIREPol® EvaGreen® qPCR Supermix
	AM-G890 08-15-00001 08-17-00001 AM-G596			BlasTaq Probe 2X qPCR MasterMix 5x HOT FIREPol® Probe qPCR Mix Plus (no ROX) 5x HOT FIREPol® Probe Universal qPCR Mix BlasTaq™ Probe One-Step RT-qPCR	
	Any qPCR instrument that supports multiplex reactions			AM-G890 JE-PCR-321L JE-PCR-321S JE-PCR-322L JE-PCR-322S	BlasTaq Probe 2X qPCR MasterMix qPCR MultiplexMaster qPCR MultiplexMaster qPCR MultiplexMaster lowROX qPCR MultiplexMaster lowROX

For compatibility with other thermal cycler please inquire

## 2X Mastermixes

### Intercalating dye based 2X Mastermixes

#### *BlasTaq™ 2X qPCR MasterMix*

**BlasTaq™ 2X qPCR MasterMix** provides a convenient, reliable and robust setup for performing quantitative real-time analysis of DNA samples. This ready-to-use qPCR MasterMix contains strategically-engineered, next generation Taq Polymerase, BlasTaq™ DNA Polymerase, providing for **rapid extension rates and robust performance**. With specialized reaction conditions, this polymerase provides increased processivity, yields, and sensitivity, while shortening reaction times by up to 70%, compared to wild-type Taq DNA polymerase.

BlasTaq™ 2X qPCR MasterMix comes with a separate vial of ROX Reference Dye which can be added depending on the qPCR machine type, as listed in the table above.

#### Key Features

AM-G891	500 T	135,00 € HT
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- Enable streamlined protocol in a simple reaction set-up
- Allow accurate quantification of a variety of gene targets
- Reduce pipetting steps to minimize the risk of contamination
- Compatible with most real-time PCR instruments (see qPCR cyclers compatibility chart above)

Cat. No.	Product Component	Quantity	Part No.
AM-G891	BlasTaq™ 2X qPCR MasterMix	500 T (4 x 1.25 ml)	AM-G891-1
	ROX Reference Dye	50 µl	AM-P102

#### *ChamQ Universal SYBR® qPCR Master Mix*

ChamQ Universal SYBR qPCR Master Mix is a special premix for qPCR reaction using SYBR Green I chimeric fluorescence method. The core component, Champagne Taq DNA Polymerase, is a novel hot-start DNA polymerase modified by antibody method. It has many advantages such as strong specificity, high detection sensitivity. With the optimal Buffer optimized for qPCR and the specific promoter, it is very suitable for qPCR reaction with high specificity and sensitivity. This kit contains special ROX, Passive Reference Dye, which is suitable for all qPCR instruments. There is no need to adjust the concentration of ROX on different instruments, and the amplification can be performed with the addition of primers and templates when preparing the reaction system.

#### Features

- **Universal ROX Passive Reference Dye:** It is suitable for all qPCR instruments. The concentration of ROX does not need to be adjusted on different instruments.
- **High Efficiency Hot Start Polymerase:** Novel antibody modified hot-start Champagne Taq DNA polymerase with strong amplification performance and high sensitivity.
  - High Specificity: The specificity-enhancing factor Exactor inhibits non-specific amplification and primer dimerization to a large extent.
  - High Sensitivity: Templates with single-digit copies can be detected.
- Compatible with Standard Program and Fast Program.

VA-Q711-02	500 T (20 µl/T, 4 x 1.25 ml)	333,00 € HT
VA-Q711-03	2500 T (20 µl/T, 20 x 1.25 ml)	1502,00 € HT

## Probe based 2X Mastermixes

### *BlasTaq™ Probe 2X qPCR MasterMix*

**BlasTaq™ Probe 2X qPCR MasterMix** is designed for TaqMan probe-based real-time qPCR analysis of DNA samples. The components in the MasterMix (dNTPs, BlasTaq™ DNA polymerase, MgCl<sub>2</sub>, and other proprietary buffer components) have been developed for superb and sensitive performance in under one hour. The MasterMix is suitable for SNP genotyping assays, gene expression analysis, microarray validation, and high throughput screening applications. ROX reference dye is provided separately, making it universally compatible with most qPCR instruments.

Cat. No.	Product Component	Quantity	Part No.
AM-G890	BlasTaq™ Probe 2X qPCR MasterMix	500 T (4 x 1.25 ml)	AM-G890-1
	ROX Reference Dye	50 µl	AM-P102
		AM-G890	500 T 135,00 € HT

### *AceQ Universal Probe Master Mix V2*

AceQ Probe Master Mix is a special reagent for qPCR using probe method. The core component AceTaq DNA Polymerase is a chemically modified hot-start DNA polymerase. Combined with optimized buffer for qPCR, it can effectively inhibit non-specific amplification, thereby significantly improving the amplification efficiency. It is suitable for high-sensitivity qPCR. This product is a 2 × master mix. It can obtain good standard curves in a wide quantitative area, and the target gene can be accurately quantified and detected, with good repeatability and high reliability.

#### Features

- **Superior amplification sensitivity:** Hot-start Ace Taq DNA Polymerase provides superior amplification performance and sensitivity.
- **Excellent linear relationship:** The amplification efficiency can reach to 99%.
- **Reliable quantification results:** It contains an unique anti-contamination system to elimination deviation caused by aerosols.
- **Universal ROX Reference Dye:** It contains a special ROX reference dye, which is applicable for almost all qPCR instruments.

VA-Q513-02	500 T (20 µl/T, 4 x 1.25 ml)	355,00 € HT
VA-Q513-03	2500 T (20 µl/T, 20 x 1.25 ml)	1581,00 € HT

### *ChamQ Geno-SNP Probe Master Mix*

ChamQ Geno-SNP Probe Master Mix is specially designed for single nucleotide polymorphism (SNP) typing by probe-based qPCR, which can be performed simply by only adding additional primers, Taqman MGB probes and templates. This master mix uses Champagne Taq DNA Polymerase as the core enzyme, with carefully optimized Buffer, the success rate of typing on low-concentration templates and complex templates has been increased. This product contains a unique ROX Passive Reference Dye that is suitable for all qPCR instruments. The concentration of ROX does not need to be adjusted on different instruments.

#### Features

- **Compatible with direct amplification of blood lysate:** SNP typing can be performed using only blood lysate as the template.
- **Broad template input compatibility:** It is compatible with template input ranging from 1 - 10 ng.
- **Great GC-rich template compatibility:** It accurately genotypes at SNP sites with a GC content of 25 - 73%.

VA-Q811-02	500 T (20 µl/T, 4 x 1.25 ml)	339,00 € HT
VA-Q811-03	2 500 T (20 µl/T, 4 x 1.25 ml)	1581,00 € HT

## qPCR MultiplexMaster

### Master mix for multiplex real-time PCR

qPCR MultiplexMaster is designed for quantitative real-time analysis of DNA samples using Dual Labeled Fluorescent Probes, e.g. TaqMan®, Molecular Beacons or FRET probes. The master mix is specially optimized for setting-up multiplex assays with  $\geq 4$  target sequences in a single tube.

The system overcomes multiplex limitations of conventional qPCR probe mixes combining an above-average robustness for a multitude of known PCR inhibitors with an excellent sensitivity for amplification of lowest template amounts.

The 2x concentrated master mix contains all reagents required for qPCR (except template and primer/probe sets) including a highly processive antibody-inhibited hot-start polymerase and ultra-pure dNTPs.

The mixes provide an extremely stringent automatic hot-start allowing reaction set-up and temporary storage at room temperature prior to PCR.

The reaction chemistry of the mix is optimized for block-based PCR instruments. The mix can also be used with ROX reference dye (#PCR-351) in PCR instruments that are compatible with the evaluation of the ROX signal

### Dual-labeled DNA probes:

Real-time PCR technology based on dual-labeled DNA probes provides a high sensitive and high specific PCR system with multiplexing capability. For amplification of each target sequence a set of two PCR primers and one fluorescent DNA probe that hybridizes to an internal part of the amplicon are required. The sequence of the dual-labeled DNA probe should avoid secondary structure and primer-dimer formation.

### Preparation of the qPCR master mix:

The preparation of a master mix is crucial in quantitative PCR reactions to reduce pipetting errors. Prepare a master mix of all components except template as specified. A reaction volume of 20-50  $\mu\text{l}$  is recommended for most real-time instruments. Prepare 13 volumes of master mix for 12 samples or a triple-set of 4 samples. Pipet with sterile filter tips and minimize the exposure of the labeled DNA probe to light. Perform the setup in an area separate from DNA preparation or analysis. No-template controls should be included in all amplifications.

component	20 $\mu\text{l}$ assay	50 $\mu\text{l}$ assay	final conc.
qPCR MultiplexMaster	10 $\mu\text{l}$	25 $\mu\text{l}$	1x
each primer forward (10 $\mu\text{M}$ ) <sup>1)</sup>	0.6 $\mu\text{l}$	1.5 $\mu\text{l}$	300 nM
each primer reverse (10 $\mu\text{M}$ ) <sup>1)</sup>	0.6 $\mu\text{l}$	1.5 $\mu\text{l}$	300 nM
each dual-labeled probe (10 $\mu\text{M}$ ) <sup>2)</sup>		0.4 $\mu\text{l}$	1 $\mu\text{l}$
200 nM template DNA	x $\mu\text{l}$	x $\mu\text{l}$	<500 ng/assay
PCR-grade water	fill up to 20 $\mu\text{l}$	fill up to 50 $\mu\text{l}$	-

<sup>1)</sup> The optimal concentration of each primer may vary from 100 to 500 nM.

<sup>2)</sup> Optimal results may require a titration of DNA probe concentration between 50 and 800 nM.

### Dispensing the master mix:

Vortex the master mix thoroughly to assure homogeneity and dispense the mix into real-time PCR tubes or wells of the PCR plate.

### Addition of template DNA:

Add the remaining x  $\mu\text{l}$  of sample/template DNA to each reaction vessel containing the master mix and cap or seal the tubes/plate. Do not exceed 500 ng DNA per reaction as final concentration. Tubes or plates should be centrifuged before cycling to remove possible bubbles.

**Recommended cycling conditions:**

Initial denaturation and polymerase activation	95 °C	2 min	1x
Denaturation	95 °C	15 sec	35-45x
Annealing and elongation	60-65 °C <sup>4)</sup>	1 min <sup>5)</sup>	35-45x

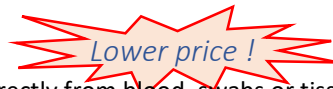
<sup>4)</sup> The annealing temperature depends on the melting temperature of the primers and DNA probe used.

<sup>5)</sup> The elongation time depends on the length of the amplicon. A time of 1 min for a fragment of up to 500 bp is recommended.

For optimal specificity and amplification an individual optimization of the recommended parameters, especially of the annealing temperature may be necessary for each new combination of template DNA, primer pair and DNA probe.

JE-PCR-321L	qPCR MultiplexMaster	10 x 1,25 ml	1533,00 € HT
JE-PCR-321S	qPCR MultiplexMaster	2 x 1,25 ml	383,00 € HT
JE-PCR-322L	qPCR MultiplexMaster lowROX	10 x 1,25 ml	1533,00 € HT
JE-PCR-322S	qPCR MultiplexMaster lowROX	2 x 1,25 ml	383,00 € HT

*Direct qPCR ProbesMaster*



Robust real-time PCR master mix for amplification directly from blood, swabs or tissue 2 x conc. master mix

**Description:**

- Quantitative real-time analysis of target DNA directly from whole blood, swabs and animal- or plant tissue.
- No requirement of prior DNA purification procedures.
- Recommended for use with dual-labeled fluorescent probes, e.g. TaqMan®, Molecular Beacon or Scorpion probes
- Multiplex-quantification of sample DNA in a broad dynamic range with exceptional sensitivity and precision.
- Recommended for:
  - Direct detection of viral or bacterial DNA in nasal or throat swabs
  - Direct PCR from whole blood samples
  - Direct amplification of target DNA from various tissue samples
  - Point-of-Care diagnostics.
- Can also be used in combination with ROX reference dye (#JE-PCR-351) in PCR instruments that are compatible with the evaluation of the ROX signal

**Content**

- Direct qPCR ProbesMaster (red cap) : 2x conc. mix of antibody-blocked Hot Start polymerase, dNTPs, reaction buffer, additives and stabilizers
- Extraction Buffer (yellow cap) : 10x conc. Please handle with care and wear personal protective equipment!
- PCR-grade Water (white cap)

**Procedure**

Before starting, take reagents out from fridge and allow to thaw completely. Vortex all reagents briefly and spin down the liquids.

*1. Sample preparation*

1.a Whole Blood (not recommended for heparin-, EDTA- or citrate-treated whole blood)

- Add whole blood (1-2 µl for 20 µl or 2-5 µl for 50 µl total assay volume) without any pre-treatment directly to the qPCR assay.

1.b Samples from nasal or throat swabs



- Dilute 10x Extraction buffer to 1x with PCR-grade water
- Transfer 200 µl 1x Extraction Buffer into a 1.5 ml microtube
- Cut off the cotton tip with the collected nasal or throat swab and place it in the micro tube
- Close the tube and vortex for 15 sec
- Incubate at room temperature (20-25 °C) for 2-3 min
- Remove the cotton tip and squeeze it out at the rim of the tube
- Centrifuge briefly and transfer 1-5 µl of the supernatant (1-2 µl for 20 µl or 2-5 µl for 50 µl total assay volume) to the qPCR assay.

#### 1.c Samples from Animal or Plant Tissue

- Prepare a small piece from animal or plant tissue not exceeding 8 mm in diameter
- Crack plant seeds to less than 1 mm in diameter using a BeadBeater, Tissue Lyser or small hammer
- Place the sample in a 1.5 ml microtube
- Add Extraction Buffer to the tissue sample as following:

Sample size (diameter)	1-2 mm	3-4 mm	5-8 mm
PCR-grade water	45 µl	90 µl	180 µl
Extraction Buffer	5 µl	10 µl	20 µl

- Mix briefly by tapping or vortexing and make sure that the sample is soaked with Extraction Buffer
- Incubate at room temperature (20-25 °C) for 3 min
- Centrifuge briefly and transfer 1-5 µl of the supernatant (1-2 µl for 20 µl or 2-5 µl for 50 µl total assay volume) to the RT-qPCR assay
- If sample is liquid: Dilute 10x Extraction buffer to 2x with PCR-grade water. Add 2x Extraction buffer to your sample in a ratio of 1:1.

#### 2. Preparation of the PCR Assay

Preparation of a master mix is crucial in quantitative PCR reactions to reduce pipetting errors. Prepare a master mix of all components except template as specified below. A reaction volume of 20-50 µl is recommended for most real-time instruments. Pipet with sterile filter tips and minimize the exposure of the labeled DNA probe to light. Perform the setup in an area separate from DNA preparation or analysis. No-template controls should be included in all amplifications.

Component	Stock conc.	Final conc.	20 µl assay	50 µl assay
Direct qPCR ProbesMaster (JE-PCR-396 kits)	2x	1x	10 µl	25 µl
Direct qPCR ProbesMaster highROX (JE-PCR-397 kits)				
Extracted Sample or whole blood	-	-	1-2 µl	2-5 µl
Forward Primer 1 <sup>1)</sup>	10 µM	300 nM	0.6 µl	1.5 µl
Reverse Primer 1 <sup>1)</sup>	10 µM	300 nM	0.6 µl	1.5 µl
TaqMan® / Dual Labeled Probe 1 <sup>1)</sup>	10 µM	200 nM	0.4 µl	1 µl
Forward Primer 2 <sup>2)</sup>	10 µM	300 nM	0.6 µl	1.5 µl
Reverse Primer 2 <sup>2)</sup>	10 µM	300 nM	0.6 µl	1.5 µl
TaqMan® / Dual Labeled Probe 2 <sup>2)</sup>	10 µM	200 nM	0.4 µl	1 µl
ROX Reference Dye #JE-PCR-351 <sup>3)</sup> (JE-PCR-396 kits only)	25 µM	500 nM	0.4 µl	1 µl
PCR-grade water	-	-	fill up to 20 µl	fill up to 50 µl

<sup>1)</sup>The optimal concentration for primers and probe may vary from 100 to 500 nM and should be optimized for each new assay set-up

<sup>2)</sup> Required only for multiplex PCR applications

<sup>3)</sup> The mix can be used in combination with ROX reference dye

Mix the tubes briefly and spin down to remove bubbles.

### 3. PCR Cycling

Switch on the real-time PCR cycler and set all cycling parameters as recommended in the table below. Place the vials into the instrument and start the program.

Initial denaturation	95 °C	2 min	1x
Denaturation	95 °C	15 sec	
Annealing and elongation	60-65 °C <sup>4)</sup>	30-60 sec <sup>5)</sup>	35-45x

<sup>4)</sup> The annealing temperature depends on the melting temperature of the primers

<sup>5)</sup> The elongation time depends on the length of the amplicon. A time of 30 sec is sufficient for fragments < 500 bp

To obtain optimal specificity and amplification results an individual optimization of the recommended parameters is recommended for each particular sample/primer pair.

### 4. Data Analysis

Calculate ct-values and evaluate the data according to the instruction of the cycler and requirements of the experiment/application.

JE-PCR-396L	Direct qPCR ProbesMaster	10 X 1,25 ml (1250 reactions x 20 µl)	811,00 € HT
JE-PCR-396S	Direct qPCR ProbesMaster	2 X 1,25 ml (250 reactions x 20 µl)	203,00 € HT
JE-PCR-397L	Direct qPCR ProbesMaster highROX	10 X 1,25 ml (1250 reactions x 20 µl)	811,00 € HT
JE-PCR-397S	Direct qPCR ProbesMaster highROX	2 X 1,25 ml (250 reactions x 20 µl)	203,00 € HT

## 5X Mastermixes

### Intercalating dye based 5X Mastermixes

#### *5X HOT FIREPol® Evagreen® qPCR Mix Plus*

##### **Cost-effective dye-based qPCR Mix with passive reference dye ROX**

- High sensitivity and specificity
- Excellent efficiency
- Reaction set-up and shipment without dry ice
- Cost-effective solution for wide range of applications

5X HOT FIREPol® Evagreen® qPCR Mix Plus ROX

08-24-00001	1 ml	106,00 € HT
08-24-00020	20 ml	1709,00 € HT

5X HOT FIREPol® Evagreen® qPCR Mix Plus Without ROX

08-25-00001	1 ml	106,00 € HT
08-25-00020	20 ml	1709,00 € HT

5X HOT FIREPol® Evagreen® qPCR Mix Plus Capillary

08-26-00001	1 ml	106,00 € HT
08-26-00020	20 ml	1709,00 € HT

#### *5x HOT FIREPol® EvaGreen® qPCR Supermix*

##### **Highly specific and reproducible dye-based qPCR Mix with blue visualization dye for easy pipetting.**

Optimized ready-to-use solution for dye-based real-time quantitative PCR assays. This master mix has been developed to give highly specific and sensitive results, and demonstrates excellent performance with GC-rich regions.

- High sensitivity with low DNA concentrations
- Blue dye to ease pipetting
- Reduced primer dimer formation
- One qPCR mix for all cyclers (except capillary)
- Contains dUTP to prevent cross-contamination with UNG treatment

08-36-00001	1 ml	123,00 € HT
08-36-00020	20 ml	1979,00 € HT

#### *5x HOT FIREPol® EvaGreen® HRM Mix*

##### **Optimized ready-to-use solution for High Resolution Melt (HRM) Analysis**

- Highly sensitive mix for accurate SNP detection
- Sensitive EvaGreen® dye for reliable HRM performance
- Reaction set-up without ice

5x HOT FIREPol® EvaGreen® HRM Mix ROX

08-33-00001	1 ml	106,00 € HT
08-33-00020	20 ml	1709,00 € HT

5x HOT FIREPol® EvaGreen® HRM Mix Without ROX

08-31-00001	1 ml	106,00 € HT
08-31-00020	20 ml	1709,00 € HT

## Probe based 5X Mastermixes

### *5x HOT FIREPol® Probe Universal qPCR Mix*

#### **High performing probe-based qPCR Mix for AT-rich, regular and GC-rich templates**

Precisely-optimized real time qPCR master mix for probe-based assays. This master mix has been developed for TaqMan® probes but is also suitable for other hydrolysis probe types.

- Suitable for singleplex and duplex assays
- High specificity and sensitivity
- One qPCR mix for all cyclers (except capillary)
- Superior results with templates with up to 75% GC content
- Contains dUTP to prevent cross-contamination when used with UNG
- Benchtop stability for 48 hours for preassembled reactions

08-17-00001	1 ml	107,00 € HT
08-17-00020	20 ml	1726,00 € HT

### *5x HOT FIREPol® Probe qPCR Mix Plus*

#### **Sensitive qPCR Mix designed for effective quantification of DNA targets with probe-based chemistry**

Cost-effective real time qPCR master mix for probe-based qPCR assays. This master mix has been developed for TaqMan® probes but is suitable for other hydrolysis probe types as well.

- Suitable for singleplex and duplex assays
- High specificity and sensitivity
- Reaction set-up and shipment without dry ice

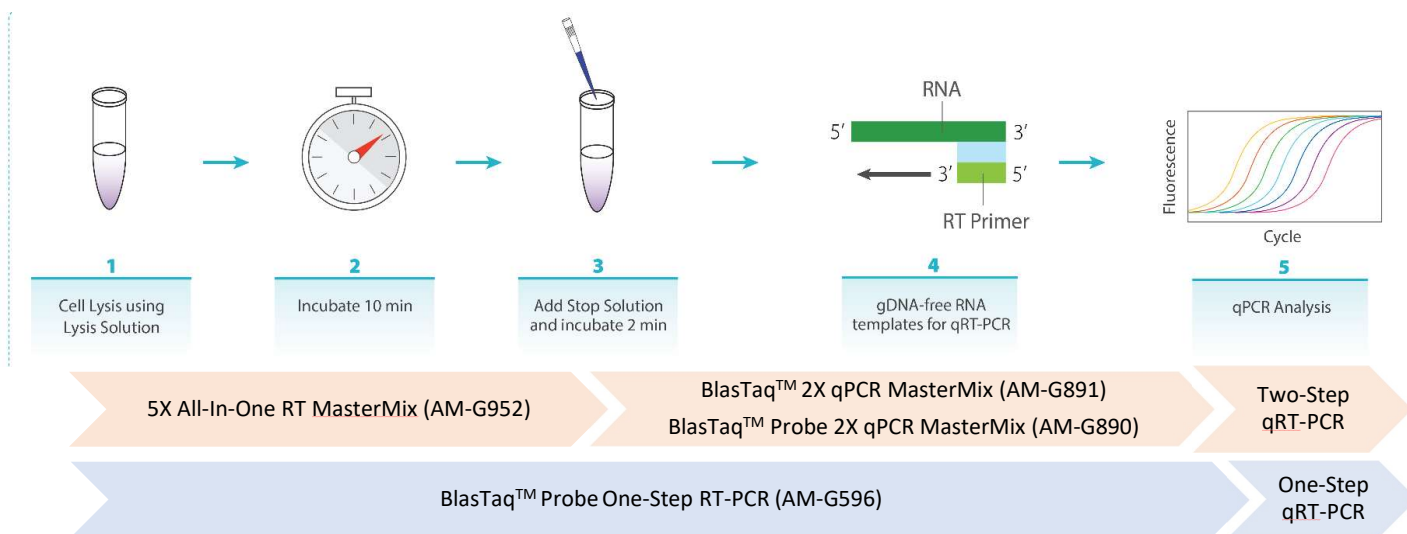
#### *5x HOT FIREPol® Probe qPCR Mix Plus ROX*

08-14-00001	1 ml	98,00 € HT
08-14-00020	20 ml	1582,00 € HT

#### *5x HOT FIREPol® Probe qPCR Mix Plus Without ROX*

08-15-00001	1 ml	98,00 € HT
08-15-00020	20 ml	1569,00 € HT

## RT-qPCR



### Probe-based One-Step qRT-PCR

#### BlasTaq™ Probe One Step RT-qPCR

**BlasTaq™ Probe One-Step RT-qPCR** provides convenience using the RT-qPCR Enzyme Mix and BlasTaq™ Probe 2X qPCR MasterMix for both highly sensitive and specific reverse transcription, and TaqMan probe-based real-time qPCR amplification in a single reaction tube.

Our proprietary RT-qPCR Enzyme Mix contains stabilizers and enhancers that optimize the two reactions in a “single step”. This offers the end user flexibility with RNA templates and primer selection, an efficient and easy-to-use set up, and a reliable alternative to conventional “two-step” sequential RT-qPCR.

The MasterMix is suitable for SNP genotyping assays, gene expression analysis, microarray validation, and high throughput screening applications.

ROX reference dye is provided separately, making it universally compatible with most qPCR instruments (see qPCR cyclers compatibility chart above).

Product Component	Quantity	Part No.
BlasTaq™ Probe 2X qPCR MasterMix	1.25 ml	AM-G890-1
RT-qPCR Enzyme Mix	100 T (40 µl)	AM-P113
ROX Reference Dye	15 µl	AM-P101
Nuclease-Free H <sub>2</sub> O	1.0 ml	AM-P100

AM-G596	500 T	136,00 € HT
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#### SCRIPT Direct RT-qPCR ProbesMaster UNG

Robust real-time RT-PCR master mix with UNG for highly sensitive and specific amplification directly from tissue, swabs or whole blood

**Lower price !**

#### Description:

- **Quantitative real-time analysis** of target RNA directly from animal- or plant tissue, swabs and whole blood.
- **No requirement** of any prior RNA purification procedures
- **Recommended for use with dual-labeled fluorescent probes**, e.g. TaqMan®, Molecular Beacon or Scorpion probes

- **Multiplex**-quantification of sample RNA in a broad dynamic range with exceptional sensitivity and precision.
- **Contains all reagents required for RT-qPCR** (except template, primer and labeled fluorescent probe)
  - Genetically engineered reverse transcriptase
  - Antibody-blocked hot start polymerase
  - Optimized and well-balanced buffer system
  - Fast and easy preparation with a minimum of pipetting steps
- **Recommended for:**
  - Direct amplification of target RNA from various tissues samples
  - Direct detection of viral or bacterial RNA in nasal or throat swabs
  - Direct PCR from whole blood samples
  - Point-of-Care diagnostics.
- **UNG (Uracil-N-Glycosylase)** : contains UNG (Uracil-N-Glycosylase) and dUTP instead of dTTP to eliminate carry-over contamination of DNA from previous PCR reactions. The UNG treatment at the onset of thermal cycling removes uracil residues from dU-containing DNA and prevents it from serving as template.
- **ROX Reference Dye** : Can also be used in combination with ROX reference dye (#JE-PCR-351) in PCR instruments that are compatible with the evaluation of the ROX signal.

**Content:**

- 2x conc. mix of Reverse Transcriptase, antibody-blocked Hot Start polymerase, UNG, dNTPs, reaction buffer, additives and stabilizers
- Extraction Buffer (Please handle with care and wear personal protective equipment!) 10x conc.
- PCR-grade Water

**Procedure:**

Before starting, take reagents out from fridge and allow to thaw completely. Vortex all reagents briefly and spin down the liquids.

*1. Sample preparation*

1.a Whole Blood (not recommended for heparin-, EDTA- or citrate-treated whole blood)

- Add whole blood (1-2  $\mu$ l for 20  $\mu$ l or 2-5  $\mu$ l for 50  $\mu$ l total assay volume) without any pre-treatment directly to the qPCR assay

1.b Samples from nasal or throat swabs

- Dilute 10x Extraction buffer to 1x with PCR-grade water
- Transfer 200  $\mu$ l 1x Extraction Buffer into a 1.5 ml microtube
- Cut off the cotton tip with the collected nasal or throat swab and place it in the micro tube
- Close the tube and vortex for 15 sec
- Incubate at room temperature (20-25 °C) for 2-3 min
- Remove the cotton tip and squeeze it out at the rim of the tube
- Centrifuge briefly and transfer 1-5  $\mu$ l of the supernatant (1-2  $\mu$ l for 20  $\mu$ l or 2-5  $\mu$ l for 50  $\mu$ l total assay volume) to the RT-qPCR assay

1.c Samples from Animal or Plant Tissue

- Prepare a small piece from animal or plant tissue not exceeding 8 mm in diameter
- Crack plant seeds to less than 1 mm in diameter using a BeadBeater, Tissue Lyser or small hammer
- Place the sample in a 1.5 ml microtube
- Add Extraction Buffer to the tissue sample as following:



Sample size (diameter)	1-2 mm	3-4 mm	5-8 mm
PCR-grade water	45 µl	90 µl	180 µl
Extraction Buffer	5 µl	10 µl	20 µl

- Mix briefly by tapping or vortexing and make sure that the sample is soaked with Extraction Buffer
- Incubate at room temperature (20-25 °C) for 3 min
- Centrifuge briefly and transfer 1-5 µl of the supernatant (1-2 µl for 20 µl or 2-5 µl for 50 µl total assay volume) to the RT-qPCR assay
- If sample is liquid: Dilute 10x Extraction buffer to 2x with PCR-grade water. Add 2x Extraction buffer to your sample in a ratio of 1:1.

## 2. Preparation of the PCR Assay

Preparation of a master mix is crucial in quantitative PCR reactions to reduce pipetting errors. Prepare a master mix of all components except template as specified below. A reaction volume of 20-50 µl is recommended for most real-time instruments. Pipet with sterile filter tips and minimize the exposure of the labeled DNA probe to light. Perform the setup in an area separate from DNA preparation or analysis. No-template controls should be included in all amplifications.

component	stock conc.	final conc.	20 µl assay	50 µl assay
SCRIPT Direct RT-qPCR ProbesMaster UNG	2x	1x	10 µl	25 µl
Extracted Sample or whole blood	-	-	1-2 µl	2-5 µl
Forward Primer 1 <sup>1)</sup>	10 µM	300 nM	0.6 µl	1.5 µl
Reverse Primer 1 <sup>1)</sup>	10 µM	300 nM	0.6 µl	1.5 µl
TaqMan® / Dual Labeled Probe 1 <sup>1)</sup>	10 µM	200 nM	0.4 µl	1 µl
Forward Primer 2 <sup>2)</sup>	10 µM	300 nM	0.6 µl	1.5 µl
Reverse Primer 2 <sup>2)</sup>	10 µM	300 nM	0.6 µl	1.5 µl
TaqMan® / Dual Labeled Probe 2 <sup>2)</sup>	10 µM	200 nM	0.4 µl	1 µl
ROX Reference Dye # JE-PCR-530 only	25 µM	500 nM	0.4 µl	1 µl
PCR-grade water	-	-	fill up to 20 µl	fill up to 50 µl

1) The optimal concentration for primers and probe may vary from 100 to 500 nM and should be optimized for each new assay set-up

2) Required only for multiplex PCR applications

- Mix the tubes briefly and spin down to remove bubbles.

## 3. RT-PCR Cycling

Switch on the real-time PCR cycler and set all cycling parameters as recommended in the table below. Place the vials into the instrument and start the program.

Reverse Transcription <sup>4)</sup>	50-55 °C	10-15 min	1x
Initial denaturation	95 °C	5 min	1x
Denaturation	95 °C	15 sec	
Annealing and elongation	60-65 °C <sup>5)</sup>	30-60 sec <sup>6)</sup>	35-45x

<sup>4)</sup> A reverse transcription time of 10 min is recommended for optimal amplicon lengths between 100 and 200 bp. Longer amplicons up to 500 bp may require a prolonged incubation of 15 min. Add 3 min for each additional 100 bp. The optimal temperature depends on the structural features of the RNA. Increase the temperature to 55°C for difficult templates with high secondary structure. Note that optimal reaction time and temperature should be adjusted for each particular RNA.

<sup>5)</sup> The annealing temperature depends on the melting temperature of the primers.

<sup>6)</sup> The elongation time depends on the length of the amplicon. A time of 30 sec is sufficient for fragments < 500 bp.

To obtain optimal specificity and amplification results an individual optimization of the recommended parameters is recommended for each particular sample/primer pair.

#### 4. Data Analysis

Calculate ct-values and evaluate the data according to the instruction of the cycler and requirements of the experiment/application.

JE-PCR-530L	SCRIPT Direct RT-qPCR ProbesMaster UNG	10 X 1,25 ml (1250 reactions x 20 µl)	2140,00 € HT
JE-PCR-530S	SCRIPT Direct RT-qPCR ProbesMaster UNG	2 X 1,25 ml (250 reactions x 20 µl)	535,00 € HT

### Intercalating dye-based One-Step qRT-PCR

#### *SCRIPT RT-qPCR SybrMaster UNG*

RT-real-time-PCR mix with SYBR® Green fluorescent DNA stain and UNG



#### **Description:**

- Quantitative real-time analysis of RNA templates using the fluorescent DNA stain SYBR® Green.
- **Genetically engineered** reverse transcriptase with enhanced thermal stability
  - Increased specificity
  - High cDNA yield
  - Improved efficiency for highly structured and long cDNA fragments
- **Contains all reagents** required for RT-qPCR (except template and primers)
  - Fast and easy preparation with a minimum of pipetting steps
- **Premium quality** enzymes and optimized reaction buffer
  - Superior real time PCR result
- **Contains UNG** (Uracil-N-Glycosylase) and dUTP instead of dTTP to eliminate carry-over contamination of DNA from previous PCR reactions. The UNG treatment at the onset of thermal cycling removes uracil residues from dU-containing DNA and prevents it from serving as template.
- **Convenient** when applied to analysis of targets from multiple samples of RNA
- **Minimizes** the risk of contaminations.
- **Sensitivity:** Targets can generally be detected from <1 pg to 20 ng poly(A) RNA (mRNA) or 10 pg to 1 µg total RNA. Even lower amounts of RNA may be successfully amplified by using highly expressed transcripts.

#### **Content:**

- SCRIPT RT-qPCR SybrMaster : Ready-to-use mix of SCRIPT Reverse Transcriptase, Hot Start Polymerase AB+, UNG, RNase Inhibitor, dNTPs, reaction buffer, SybrGreen DNA intercalator dye and stabilizers
- PCR-grade Water
- SYBR® Green fluorescent DNA stain: SYBR® Green fluorescent DNA stain is a superior DNA intercalator dye specially developed for DNA analysis applications like real-time PCR (qPCR). Upon binding to DNA, the non-fluorescent dye becomes highly fluorescent while showing only lowest inhibition to the PCR process. The dye is stable both thermally and hydrolytically, providing convenience during routine handling.

**Preparation of the RT-qPCR assay:**

Add the following components to a nuclease-free microtube and mix the components by pipetting gently up and down. In general, water, RNA and primers should be mixed together before adding the master mix.

Component	stock conc.	final conc.	20 µl assay	50 µl assay
PCR-grade water	-	-	fill up to 20 µl	fill up to 50 µl
RNA template <sup>1)</sup>	-	<100 ng	x µl	x µl
Forward Primer <sup>2)</sup>	10 µM	400 nM	0.8 µl	2 µl
Reverse Primer <sup>2)</sup>	10 µM	400 nM	0.8 µl	2 µl
SCRIPT RT-qPCR SybrMaster UNG <sup>4)</sup>	2x	1x	10 µl	25 µl

<sup>1)</sup> up to 100 ng polyA RNA or total RNA

<sup>2)</sup> The optimal concentration for primers and probe may vary from 100 to 500 nM.

<sup>4)</sup> The Mix already contains RNase inhibitor that may be essential when working with low amounts of starting RNA.

Continue with reverse transcription and thermal cycling as recommended.

**Reverse transcription and thermal cycling:**

Place the vials in a PCR cycler and start the following program.

Reverse transcription <sup>5)</sup>	50-55 °C	10-15 min	1x
Initial denaturation <sup>6)</sup>	95°C	5 min	1x
denaturation	95°C	15 sec	35-45x
annealing <sup>7)</sup>	55-65°C	20 sec	35-45x
elongation <sup>8)</sup>	72°C	30 sec	35-45x

<sup>5)</sup> A reverse transcription time of 10 min is recommended for optimal amplicon lengths between 100 and 200 bp. Longer amplicons up to 500 bp may require a prolonged incubation of 15 min. Add 3 min for each additional 100 bp. The optimal temperature depends on the structural features of the RNA. Increase the temperature to 55 °C for difficult templates with high secondary structure. Note that optimal reaction time and temperature should be adjusted for each particular RNA.

<sup>6)</sup> An initial denaturation time of 5 min is recommended to inactivate the reverse transcriptase

<sup>7)</sup> The annealing temperature depends on the melting temperature of the primers.

<sup>8)</sup> The elongation time depends on the length of the amplicon. A time of 1 min for a fragment of 1,000 bp is recommended.

For optimal specificity and amplification an individual optimization of the recommended parameters may be necessary. Note that optimal reaction times and temperatures should be adjusted for each particular RNA / primer pair.

SYBR® is a registered trademark of Invitrogen Corporation, Carlsbad, California, USA

JE-PCR-526L	SCRIPT RT-qPCR SybrMaster UNG	10 X 1,25 ml (1250 reactions x 20 µl)	1712,00 € HT
JE-PCR-526S	SCRIPT RT-qPCR SybrMaster UNG	2 X 1,25 ml (250 reactions x 20 µl)	428,00 € HT

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# RT-PCR

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## cDNA Synthesis

### Enzymes : Reverse transcriptases

#### *EpiScript™ RNase H- Reverse Transcriptase*

EpiScript™ RNase H- Reverse Transcriptase (EpiScript RT), an alternative to SuperScript® II Reverse Transcriptase, is a recombinant MMLV reverse transcriptase with greatly reduced RNase H activity. It is highly efficient at producing full-length cDNA from long RNA templates. EpiScript RT is capable of producing cDNA from as little as 50 pg of total RNA for real-time RT-PCR (qRT-PCR) analysis and other applications

#### Applications

- First-strand cDNA synthesis for subsequent PCR or real-time PCR.
- When purchased together one LU-ERT12925K-ENZ and one LU-30050-1 will provide enough reagent for 250 x 20 µL RT-qPCR reactions.
- Vials are shipped on dry ice and stored at -20°C

LU-ERT12910K	10 000 U	153,00 € HT
LU-ERT12925K	25 000 U	258,00 € HT
LU-ERT12925K-ENZ	25 000 U	153,00 € HT

#### Benefits

- Recombinant MMLV reverse transcriptase with greatly reduced RNase H activity
- Active at temperatures up to 55°C
- Highly efficient at producing full-length cDNA from as little as 50 pg of total RNA
- Best value in an RNase H- Reverse Transcriptase
- Concentration 200 U/µl

#### *M-MuLV Reverse Transcriptase*

M-MuLV Reverse Transcriptase (RT) is a genetically modified M-MuLV RT. It differs from the M-MuLV RT by its structure and catalytic properties. The enzyme possesses an RNA-dependent and DNA-dependent polymerase activity and a ribonuclease H activity specific to RNA in RNA-DNA hybrids.

#### Features

- Suitable for synthesis of full-length cDNA as long as 13 kb.
- Temperature optimum of activity at 42°C.
- Activity up to 50°C.
- Incorporates modified nucleotides (e.g. Cy3-, Cy5-, rhodamine-, aminoallyl-, fluorescein-labeled nucleotides).
- Concentration 200 U/µl

#### Applications:

- Generation of first strand cDNA for use in: PCR, real-time PCR;
- Second strand cDNA synthesis.
- DNA labeling ;
- Analysis of RNA by primer extension
- Concentration : 200 u/µl

09-11211	10 000 U	134,00 € HT
09-11212	5 x 10 000 U	484,00 € HT

### *M-MLV (H-) Reverse Transcriptase*

The wildtype Moloney Murine Leukemia Virus (M-MLV) reverse transcriptase has the following activities: RNA-dependent DNA polymerase, DNA-dependent DNA polymerase, and RNase H. The M-MLV (H-) Reverse Transcriptase is a single-site mutant of M-MLV which contains no RNase H activity. Compared with M-MLV mutants obtained via deletion of the RNase H domain, this product, which retains a complete protein structure and polymerase activities, can be used for the synthesis of longer cDNA or the preparation of cDNA library.

#### Applications:

VA-R021-01	10 000 U	80,00 € HT
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- The RNase H activity was eliminated by mutagenesis to obtain cDNA with longer fragments.
- Stable and reliable reverse transcription for RNA templates with amount > 100 ng.
- The length of RT-PCR products is no longer than 5 kb.
- Suitable for 5'-RACE and cDNA library construction.
- Temperature optimum of activity at 42°C
- Concentration : 200 U/μl

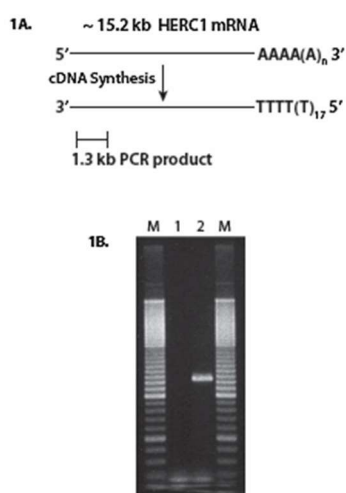
### *MMLV High Performance Reverse Transcriptase*

Optimized reverse transcriptase and buffer system for the production of full-length cDNA.

- Synthesize full-length cDNA (>15 kb)
- Amplify first-strand cDNA from picogram amounts of total RNA
- Optimize the RT reaction to your specific needs by using the first strand cDNA synthesis primers, dNTPs and RNase inhibitor of your choice (not included).

#### Description

The MMLV HP RT demonstrates significantly greater reverse transcriptase activity than other commercially available MMLV RT enzymes. Typically, just 100 units of MMLV HP RT are required for full-length cDNA synthesis compared to 200 units of competitive MMLV RT enzymes. MMLV HP RT includes a 10X Reaction Buffer, optimized for synthesis of full-length cDNA from long RNA templates, and DTT. The enzyme, buffer and DTT are the same components used in the MMLV Reverse Transcriptase 1st-Strand cDNA Synthesis Kit. By providing these three components individually, you have the flexibility to choose dNTPs, RNase Inhibitors, etc. and optimize the RT reaction for your specific needs.



LU-RT80125K	25 000 U	235,00 € HT
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Figure : MMLV HP RT produces full-length cDNA from mRNA longer than 15 kb. Total RNA isolated from HeLa cells was reverse transcribed and the cDNA was amplified by PCR. Detection of the 1.3-kb PCR amplicon from near the 5' end of the mRNA demonstrates full-length reverse transcription of HERC1 mRNA (1A). Agarose gel analysis of the PCR products shows the 1.3-kb amplicon from the 5' end of the mRNA (1B). Lane M, 100 bp DNA ladder; lane 1, no-RT control reaction; lane 2, PCR product from cDNA synthesized by Epicentre's MMLV HP RT.

### OneScript® Plus Reverse Transcriptase

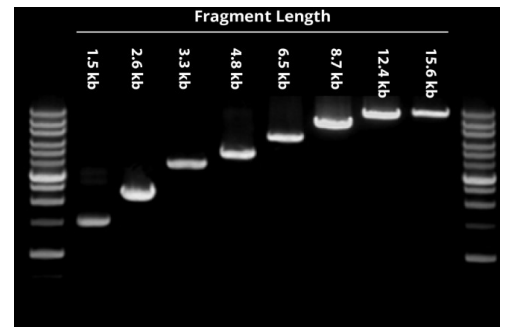
Synthesize cDNA from complex RNA templates (i.e. secondary structures and high GC content) with OneScript® Plus Reverse Transcriptase. Engineered to perform under high temperatures (45°C - 55°C), OneScript® Plus Reverse Transcriptase can synthesize full-length cDNA libraries from RNA templates up to 15kb in length. In addition, OneScript® Plus Reverse Transcriptase has outstanding proofreading ability due to the presence of a fidelity-enhancing subunit, thus making this RTase an excellent choice for whole genome sequencing.

AM-G237	100 x 20 µl T	125,00 € HT
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#### Applications

- Synthesizing cDNA from a ssRNA
- DNA primer extension
- Sequencing dsDNA
- Constructing cDNA library
- Constructing libraries for serial analysis for gene expression (SAGE)
- Synthesizing cDNA in rapid amplification of cDNA ends (3' & 5' RACE)
- Producing template for use in RT-PCR or real-time RT-PCR
- Labelling 3'-end of duplex DNA via end-filling reactions
- Generating probes for hybridization
- Concentration : 200 U/µl

**Format** Enzyme supplied with 5X RT buffer



**OneScript® Plus Reverse Transcriptase can elongate RNA templates up to 15 kb in length.** OneScript® Plus Reverse Transcriptase (Cat. No. AM-G237) was used in a reaction with a range of human RNA fragments. The resulting synthesized cDNA was followed by PCR and visualized on a 1% agarose gel.

### RapiDxFire ThermoStable Reverse Transcriptase

A truly thermostable reverse transcriptase for fast synthesis of short cDNA (< 1 Kb)

LU-30250-1	50 T	640,00 € HT
LU-30250-2	250 T	2708,00 € HT

RapiDxFire™ ThermoStable Reverse Transcriptase is a significant advancement over popular MMLV- and AMV reverse transcriptases. Originally identified in hot springs, this robust bacteriophage enzyme exhibits increasingly high activity at elevated temperatures (~60% activity remains after 10 min at 90°C) and maintains its core activity after >3 months storage at 20-25°C. This enzyme lacks RNase H and 3'→5' exonuclease activity and efficiently synthesizes short cDNA fragments (≤ 1 Kb). Like other reverse transcriptases, RapiDxFire RT possesses DNA polymerase activity but lacks 5'→3' exonuclease activity. Supplied in a glycerol-free, Triton™ X-100-free storage buffer, the enzyme formulation can be further optimized for downstream lyophilization.

#### Features

- Extremely active at high temperatures (55 to 80°C) : Improves specificity of cDNA Synthesis from diverse RNA templates
- Sensitive: Detects ≤100 copies of RNA in two-step RT-qPCR assays
- Short reaction time (5 minutes or less): Streamlined RT-qPCR workflow and faster time to results
- Stable at room temperature (> 3 months): Simplifies setup on automation decks (no cold storage required) and enables use in environments with limited cold-storage
- Lyo-compatible: Enzyme formulation is free of glycerol -and other components- that are known to interfere with downstream lyophilization
- Concentration: 3 Units/µl
- Batch to batch reproducibility: Manufactured in an ISO 13485-certified facility

## RNase Inhibitor

### *RiboGuard™ RNase Inhibitor*

RNA is precious. Protect it with this high quality, effective RNase inhibitor.

- Inhibit RNase A, RNase B and RNase C
- Prevent RNA degradation and protect your precious samples

ScriptGuard™ RNase Inhibitor will now be sold as RiboGuard™ RNase Inhibitor. There is no change in product specification, only product name and catalog numbers have changed. (SRI6325 is now LU-RG90925, and SRI6310K is now LU-RG90910K.)

### **Applications**

- cDNA synthesis
- RT-PCR
- In vitro transcription and translation

LU-RG90910K	10 000 U @ 40 U/μl	415,00 € HT
LU-RG90925	2500 U @ 40 U/μl	166,00 € HT

RiboGuard™ RNase Inhibitor is the best defense against common RNases, including Rnase A, Rnase B, and Rnase C. This recombinant Rnase inhibitor protein provides reliable protection of valuable RNA samples by binding strongly to RNases in a 1:1 ratio. Advanced purification protocols and extensive quality control tests ensure RiboGuard RNase Inhibitor is free of unwanted contaminants that can plague other commercially available preparations of Rnase inhibitors.

### **Benefits**

- A potent affinity for RNases ( $K_i > 10^{-14}$  M) ensures rapid inhibition even when trace amounts of Rnase are present.
- Free of detectable Rnase or Dnase activity, and mammalian DNA.
- Does not interfere with enzymes commonly used to prepare or analyze RNA.
- Less sensitive to oxidation than traditional Rnase inhibitors.

**Unit Definition:** One unit of RiboGuard Rnase Inhibitor results in 50% inhibition of 5 ng of Rnase A. Activity is measured by the inhibition of hydrolysis of 2,3'-cyclic monophosphate by Rnase A.

**Storage Buffer:** 50% glycerol solution containing 50 mM Tris-HCl (pH 7.5), 0.1 mM EDTA, 100 mM NaCl, and 10 mM DTT.

**Quality Control:** RiboGuard Rnase Inhibitor is free of detectable DNA exo- and endonuclease, and Rnase activities

### *Ribonuclease inhibitor*

- Inhibits the activity of RNase A type in a variety of organisms.
- Inhibits a broad range of eukaryotic RNases, including RNase A, RNase B and RNase C.
- Recombinant

09-0311	2500 U @ 40 U/μl	87,00 € HT
09-0312	4 x 2500 U @ 40 U/μl	329,00 € HT



**Kits for First strand cDNA synthesis**

LU-MM070150	50 T	369,00 € HT
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*MMLV Reverse Transcriptase 1st-Strand cDNA Synthesis Kit*

Optimized, complete system for production of full-length cDNA from low amounts of total RNA.

- Synthesize full-length cDNA (>15 kb)
- Generate first-strand cDNA from picogram amounts of total RNA
- Select olido(dT) or random primers - both included

**Applications**

- First-strand cDNA synthesis for subsequent PCR or real-time PCR.
- RT-PCR validation of gene expression data obtained from microarray experiments.
- RT-PCR validation and quantification of gene silencing by RNA interference.

The MMLV Reverse Transcriptase 1st-Strand cDNA Synthesis Kit produces full-length first-strand cDNA from total cellular RNA preparations or purified poly(A) RNA.

This complete kit includes the same MMLV High Performance Reverse Transcriptase that is available as a separate component (Cat. No. LU-RT80125K) and maintains all the same high performance characteristics as that stand alone enzyme. To help simplify your cDNA synthesis, this kit contains all the necessary components to make 1st strand cDNA.

**Benefits**

- Synthesize full-length cDNA from RNA templates longer than 15 kb.
- MMLV HP RT demonstrates significantly higher activity than competitive reverse transcriptase enzymes.
- Reaction Buffer, optimized for producing full-length cDNA, is included with both the MMLV HP RT and the MMLV Reverse Transcriptase 1st-Strand cDNA Synthesis Kit.
- The kit includes both an oligo(dT) and random nonamer primers.
- First-strand cDNA can be made from picogram amounts of input total RNA.
- The kit includes a potent RNase Inhibitor to protect the integrity of template RNA.

*OneScript® Plus cDNA Synthesis kit*

**OneScript® Plus cDNA Synthesis Kit** contains all materials required for first-strand cDNA synthesis, with the choice of using either Oligo(dT) and/or Random Primers. Oligo(dT) anneals selectively to the poly(A) tail of mRNAs. Random Primers do not require the presence of poly(A) and can be used for the transcription of mRNA 5'-end regions. Gene-specific primers may also be used with the kit. The recombinant RNaseOFF Ribonuclease Inhibitor, supplied with the kit, effectively protects RNA template from degradation. The first-strand cDNA can be directly used as a template in PCR

**OnScript® Plus cDNA Synthesis Kit (AM-G236)**

- + RNA
- + OneScript Plus®
- + Oligo (dT)/ Random Primers
- + dNTP
- + RNaseOFF Ribonuclease inhibitor
- + 5X RT Buffer

RT

cDNA  
Synthesis

AM-G236	100 x 20 µl T	205,00 € HT
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### 5X All-In-One RT MasterMix

**All-In-One 5X RT MasterMix** is a convenient and ready-to-use formulation for first-strand cDNA synthesis, including genomic DNA (gDNA) removal. **Genomic DNA contamination is a common problem for accurate RNA detection and this MasterMix solves that problem without affecting reverse transcription and first-strand cDNA synthesis.**

cDNA synthesis will be simple, reliable, and reproducible. The optimized 5X RT MasterMix contains

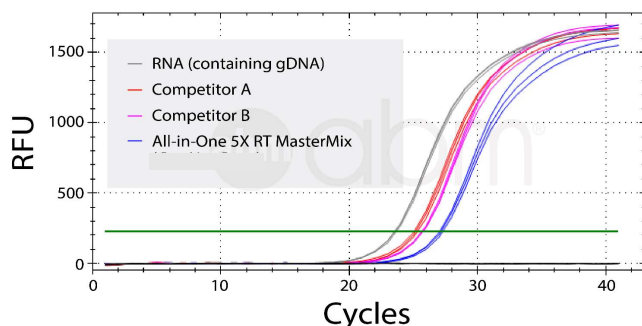
- OneScript® Hot Reverse Transcriptase
- RNaseOFF Ribonuclease Inhibitor
- Temperature-sensitive DNase
- dNTPs
- A finely-balanced ratio of Oligo (dT)s and Random Primers.

The high-quality cDNA synthesized from this kit can be used for a wide range of downstream applications.

#### 5X All-In-One RT MasterMix (AM-G592)

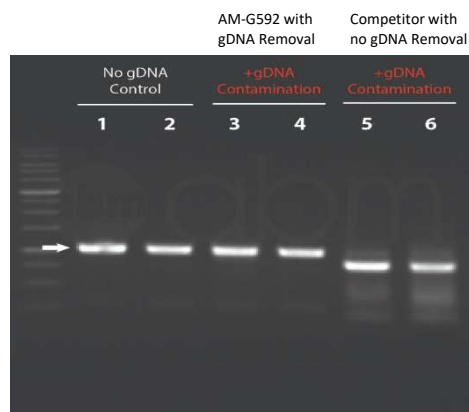


AM-G592	100 T (400 µl)	192,00 € HT
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**All-in One 5X RT MasterMix (Cat. No. AM-G592) ensures accurate qPCR results where contaminating gDNA would otherwise result in artificially-early Ct values.**

RNA samples contaminated with gDNA were reverse-transcribed for 15 min with All-in-One 5X RT masterMix (Cat. No. AM-G592), Competitor A, or Competitor B. 1 µl of RT product was then used in qPCR to assay amplification of a GAPDH target



**All-in One 5X RT MasterMix (Cat. No. AM-G592) removes gDNA contamination for highest quality cDNA synthesis.**

cDNA synthesis and PCR amplification of control sample with no gDNA contamination (lane 1 and 2), gDNA contaminated sample after All-In-One 5X RT MasterMix (Cat No. AM-G592) containing gDNA removal (lane 3 and 4) and gDNA contaminated sample after competitor RT MasterMix without gDNA removal capabilities (lane 5 and 6)

## RT-PCR kit

### *MegaFi™ One-Step RT-PCR*

**MegaFi™ One-Step RT-PCR** is an enzyme mix of OneScript® Hot Reverse Transcriptase and MegaFi™ Fidelity DNA Polymerase with RNaseOFF Ribonuclease Inhibitor, gel loading dye, and all other necessary reagents in a single One-Step 2X RT-PCR Buffer for both **highly sensitive and specific reverse transcription and high fidelity PCR amplification in a single reaction tube** from any RNA template. It provides flexibility in choosing desired primers for use with a proprietary RT-PCR buffer containing stabilizers and enhancers that optimize the two reactions in a “single step”. This kit offers simple, efficient reaction setup, and is a reliable alternative to conventional “two-step” sequential RT-PCR.


Cat. No.	Product Component	Quantity	Part No.
AM-G597	RT-PCR Enzyme Mix	100 T (400 µl)	AM-P597-1
	2X One-Step RT-PCR Buffer	2 x 1.25 ml	AM-P597-2

**MegaFi™ One-Step RT-PCR (AM-G597)**

- + 2X One-Step RT-PCR Buffer
- + RT-PCR Enzyme mix
- + Gene specific Primers
- + RNA
- + Nuclease free H<sub>2</sub>O

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RT-PCR



One-Step  
RT-PCR

AM-G597	500 T	254,00 € HT
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