



**MOLECULAR  
BIOLOGY**



*Euro*  *Clone*<sup>®</sup>

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# INTRODUCTION

Since our establishment in the early 80's, Euroclone has given scientists a valuable opportunity to gain access to a world of products and equipment in Biotechnology.

During more than three decades of experience, our Company has evolved into a modern supplier of up-to-date and own-branded products, pursuing affordability and quality: all manufacturing procedures are strictly regulated with raw materials, bulks and final products undergoing stringent controls.

Euroclone provides innovative products, services and solutions for Molecular and Cell Biology, Genomics, Proteomics, Cytogenetics and Agro-Food Diagnostics.

From the choice of high-quality products to the after sales service, Euroclone is your reliable and solid partner for your scientific challenges.

In 2019 Euroclone is acquired by AddLife AB becoming part of an important international group. This step ensure continuity and further expansion of the company in the Italian market and in the export of the proprietary private lines, key and distinctive element of the identity of Euroclone.

1

# NUCLEIC ACIDS ISOLATION SYSTEMS

Nucleic acids isolation is a crucial step in many experimental workflows. Our range of fully validated kits have been developed for use with diverse starting materials to ensure fast isolation of highly purified nucleic acids.

- ✓ Fast and easy protocols
- ✓ High quality and yields
- ✓ Cost effective

## Nucleic Acids Isolation Systems

### EuroGold TriFast™ II- Nucleic Acids Isolation Reagent

EuroGold TriFast™ is a ready-to-use reagent for the extraction of RNA, DNA and proteins from a variety of starting materials. Used in conjunction with chloroform extraction, it allows the isolation of RNA, DNA and proteins from the same sample.

This method for purifying nucleic acids does not exclude very small or very large molecules and it is therefore suitable for studies of miRNAs or mRNAs. Additionally, this protocol produces high quality RNA suitable for applications such as cDNA synthesis and Real Time-PCR, Northern Blot or dot blot hybridization. DNA is suitable for use in enzymatic reactions such as restriction digestions or ligations, DNA sequencing, PCR, Southern Blot. The purified proteins can be used for Western Blot analysis.

#### Features

- Purification: RNA, DNA and proteins
- Format: Reagent + phenol/chloroform
- Starting materials: Wide ranging
- Starting Quantity: Scalable
- Expected Yield: Up to 7 µg/mg tissue
- Protocol time: 1+ hours

#### Protocol at-a-glance

- ✓ Homogenization and lysis of the sample with TriFast™
- ✓ Centrifugation
- ✓ Addition of chloroform and RNA extraction from the upper phase
- ✓ RNA precipitation and resuspension
- ✓ DNA extraction from the interphase/organic phase
- ✓ DNA precipitation and resuspension
- ✓ Protein extraction from the ethanol/phenol phase
- ✓ Protein purification

#### Expected Yields

##### RNA and DNA from tissue

Tissue	RNA	DNA
Liver	6-10 µg/mg	3-4 µg/mg
Kidney	3-4 µg/mg	3-4 µg/mg
Skeletal muscle	1-1,5 µg/mg	2-3 µg/mg
Brain	1-1,5 µg/mg	2-3 µg/mg
Placenta	1-4 µg/mg	2-3 µg/mg

##### RNA and DNA from cell culture

Cell Type	RNA	DNA
Epithelial cells	8-15 µg/10 <sup>6</sup> cells	5-7 µg/10 <sup>6</sup> cells
Fibroblast	5-7 µg/10 <sup>6</sup> cells	5-7 µg/10 <sup>6</sup> cells

#### Ordering information

Cat. Num.	Description	Size
EMR517100	EuroGold TriFast™ - Nucleic Acids Isolation Reagent	100 ml
EMR517200	EuroGold TriFast™ - Nucleic Acids Isolation Reagent	200 ml

**Storage and Stability** 1 year at 4°C

**Shipping** Room Temperature

### DirectFAST

For a quick purification of high-quality (DNA-free) total RNA directly from TriFast™ reagent, bypassing phase separation and precipitation procedures, EuroGold TriFast™ is available with Direct-zol RNA MiniPrep spin columns from our partner **Zymo Research**.

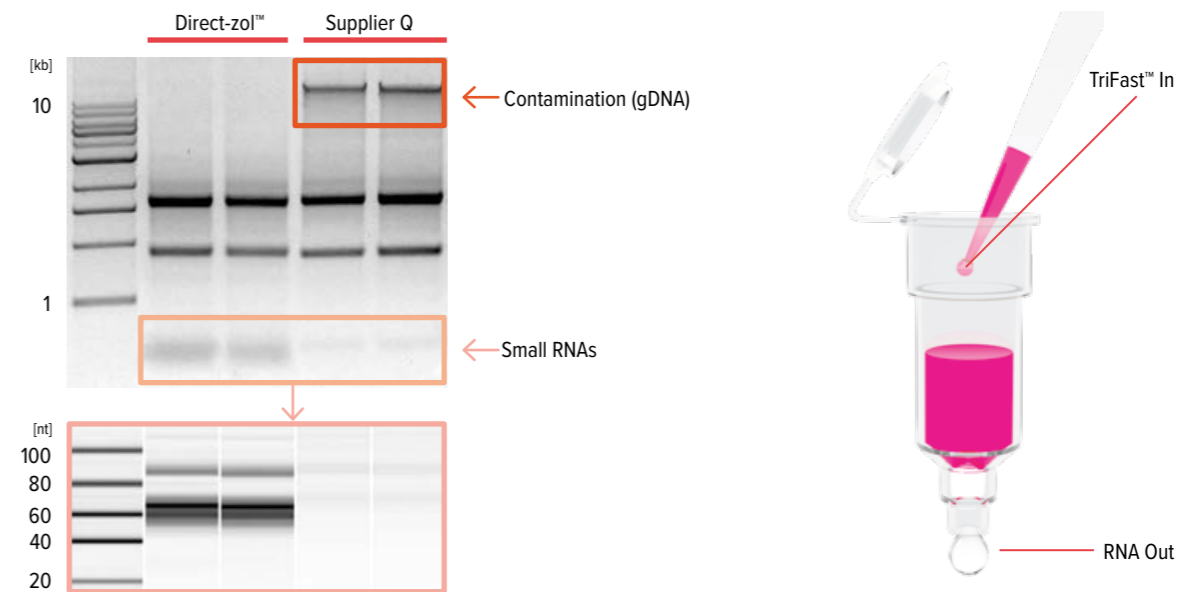
Obtained RNA is ultra-pure and NGS-ready; no phenol carryover or DNA contamination (DNase I included).

#### Features

- Purification: total RNA, including small RNAs (>17 nt)
- Format: Trireagent + spin-column
- Starting materials: a variety of sample sources
- Starting Quantity: DirectFAST up to 5x10<sup>6</sup> cells or 25 mg tissue; DirectFAST Plus up to 1x10<sup>7</sup> cells or 50 mg tissue
- Binding capacity: DirectFAST up to 50 µg; DirectFAST Plus up to 100 µg
- Elution volume: DirectFAST 25 µl; DirectFAST Plus 50 µl
- Protocol time: 7 minutes (sample preparation not included)

#### Protocol at-a-glance

- ✓ Apply a prepared sample in EuroGold TriFast™ directly to the Direct-zol-Spin Column
- ✓ Bind
- ✓ Wash
- ✓ Elute the RNA



High-quality intact small and large RNAs are efficiently recovered using EuroGold TriFast™ and Direct-zol™ RNA Kit compared to using a Supplier Q Kit. RNA is DNA-free and ready for all downstream applications including NGS.

Bind RNA directly to a Direct-zol™ RNA Spin Column.

#### Ordering information

Cat. Num.	Description	Size
EMR527100	DirectFAST (Direct-zol™ RNA MiniPrep + TriFast™)	100 prep
EMR527200	DirectFAST (Direct-zol™ RNA MiniPrep + TriFast™)	200 prep
EMR528100	DirectFAST Plus (Direct-zol™ RNA MiniPrep Plus + TriFast™)	100 prep
EMR528200	DirectFAST Plus (Direct-zol™ RNA MiniPrep Plus + TriFast™)	200 prep

**Storage and Stability** 1 year at Room Temperature (except TriFast™ at 4°C)

**Shipping** Room Temperature

## Euroclone spinNAker Universal Genomic DNA mini kit

NEW

Euroclone spinNAker Universal Genomic DNA mini kit is designed for a rapid and efficient purification of high quality genomic, mitochondrial, bacterial, parasite or viral DNA from solid tissues (fresh, frozen, formalin-preserved or paraffin-embedded), physiological fluids (urine, cerebrospinal fluid, peritoneal fluid, pleural fluid, sputum), fresh and frozen blood (human and mammalian), human and animal mucosa membrane swabs (including buccal, nasal, pharyngeal and vaginal swabs), semen, hair, rodent tails, insects, bacteria, yeast and cell cultures. DNA purification procedure utilizes spin minicolumns with membranes which efficiently and selectively bind nucleic acids.

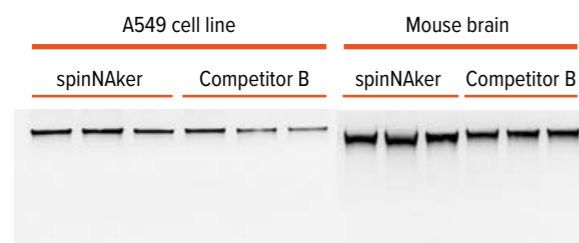
Purified DNA can be used directly in all downstream applications such as PCR, quantitative real-time PCR, pharmacogenetic research, Southern blotting, single-nucleotide polymorphism (SNP), short tandem repeat (STR) genotyping, DNA sequencing, enzymatic restriction, ligation and so forth.

## Features

- Purification: Genomic DNA
- Format: Spin columns
- Starting materials: Wide ranging
- Starting quantity: Up to 10<sup>7</sup> cells, 30 mg tissue, 1 ml blood, 5 ml physiological fluids.
- Binding capacity: Up to 50 µg
- Elution volume: 50-200 µl
- Protocol time: 12 minutes (sample preparation not included)

## Protocol at-a-glance

- ✓ Biological material lysis by Proteinase K
- ✓ Optional RNase A treatment
- ✓ Centrifugation
- ✓ Loading onto purification minicolumn
- ✓ Centrifugation
- ✓ Two-step washing stage
- ✓ Elution of purified genomic DNA



**Highest efficiency:** spinNAker Universal Genomic DNA mini kit yields highly concentrated DNA from a variety of sources.

## Ordering information

Cat. Num.	Description	Size
EMR603050	Euroclone spinNAker Universal Genomic DNA mini kit	50 preps
EMR603250	Euroclone spinNAker Universal Genomic DNA mini kit	250 preps

**Storage and Stability** 36 months at Room Temperature, 12 months from opening (reconstituted RNase A and Proteinase K at -20°C)

**Shipping** Room Temperature

## Euroclone spinNAker Plasmid DNA miniprep kit

NEW

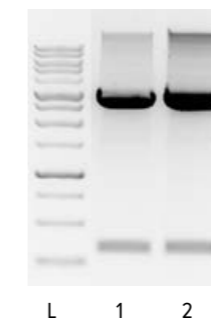
Euroclone spinNAker Plasmid DNA miniprep kit is designed for a rapid and efficient purification of high-quality plasmid DNA from recombinant Escherichia coli strains. The isolation protocol and buffer formulations were optimized for high isolation efficiency and DNA purity. DNA purification procedure utilizes spin minicolumns with membranes which efficiently and selectively bind nucleic acids.

## Features

- Purification: Plasmid DNA
- Format: Spin columns
- Starting materials: Bacteria broth culture, frozen cell pellet
- Starting quantity: 5-10 ml
- Binding capacity: Up to 60 µg DNA
- Elution volume: 50-100 µl
- Protocol time: About 25 min

## Protocol at-a-glance

- ✓ Bacterial cells lysis
- ✓ Centrifugation
- ✓ Loading onto purification minicolumn
- ✓ Centrifugation
- ✓ Two-step washing stage
- ✓ Elution of purified plasmid DNA



**Highest yield:** Plasmid 3000 bp and insert 300 bp.

L: ladder; 1: Competitor 2: SpinNAker Plasmid DNA Miniprep kit.

## Ordering information

Cat. Num.	Description	Size
EMR600050	Euroclone spinNAker Plasmid DNA miniprep kit	50 preps
EMR600250	Euroclone spinNAker Plasmid DNA miniprep kit	250 preps

**Storage and Stability** 36 months at Room Temperature, 12 months from opening (reconstituted RNase A at +4°C)

**Shipping** Room Temperature

## Euroclone spinNAker GEL&PCR DNA purification kit

NEW

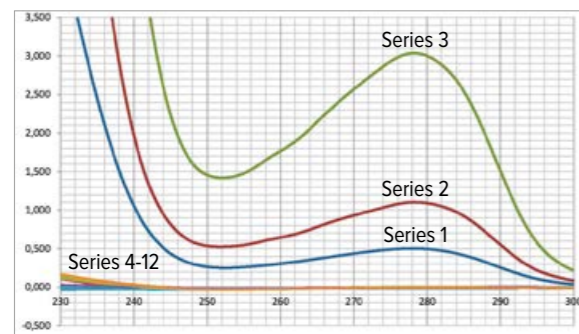
Euroclone spinNAker GEL&PCR DNA purification kit is designed for a rapid and efficient purification of DNA fragments after enzymatic reactions as well as directly from agarose gels. It efficiently removes nucleases, enzyme inhibitors, detergents, restriction enzymes, polymerases, divalent ions, agarose, ethidium bromide and other contaminants. DNA purification procedure utilizes spin minicolumns with membranes which efficiently and selectively bind nucleic acids. Purified DNA can be used in every common downstream application.

### Features

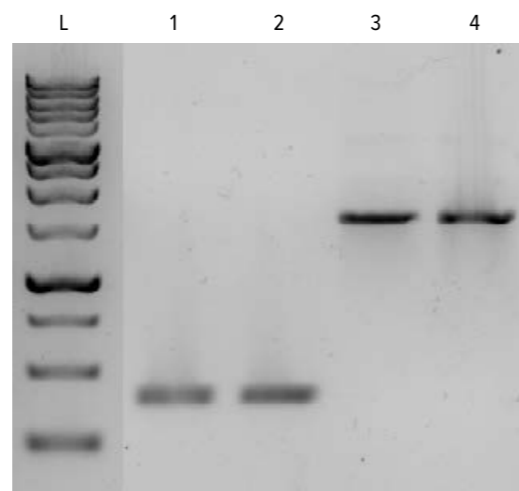
- Purification: DNA from agarose gel and from reaction mixes
- Format: Spin columns
- Starting materials: Agarose slice or reaction mix
- DNA fragment length: Optimal 100 bp - 10 kb; also possible in the ranges 50-100 bp and 10-20 kb
- Starting quantity: Up to 300 mg agarose containing DNA or up to 200 µl of reaction mix
- Binding capacity: Up to 40 µg DNA
- Elution volume: 15-30 µl for DNA Clean-up and 20-200 µl for DNA gel-out
- Protocol time: 5-10 min for DNA Clean-up and 16-20 min for DNA gel-out

### Protocol at-a-glance

- ✓ Addition of CB Buffer to reaction mix OR incubation in GB Buffer of agarose gel slice and isopropanol addition
- ✓ Loading onto purification minicolumn
- ✓ Centrifugation
- ✓ Two-step washing stage
- ✓ Elution of purified DNA



**Ultra-pure DNA:** Disappearance of picks at A280 shows that BSA at different concentrations (Series 1-3) is efficiently removed from samples after cleaning up with spinNAker GEL&PCR DNA purification kit (Series 4-12).



**High-quality:** DNA fragments (300 and 1700 bp) recovered from an agarose gel.  
L: ladder, 1, 3: SpinNAker GEL&PCR DNA purification kit; 2, 4: Competitor C.

### Ordering information

Cat. Num.	Description	Size
EMR602050	Euroclone spinNAker GEL&PCR DNA purification kit	50 preps
EMR602250	Euroclone spinNAker GEL&PCR DNA purification kit	250 preps

**Storage and Stability** 36 months at Room Temperature, 12 months from opening

**Shipping** Room Temperature

## EuroSAP - PCR Enzymatic Clean-up kit

EuroSAP is a quick and efficient PCR clean-up kit designed to remove primers and nucleotides from PCR products. It is based on the activity of two hydrolytic enzymes, recombinant Shrimp Alkaline Phosphatase (SAP) and Exonuclease I (Exo I); the combined action of these enzymes ensures complete dephosphorylation of dNTPs and degradation of residual primers. The reagents are active in commonly used PCR buffers and eliminates the need for buffer exchange. Purified DNA is ready for all downstream applications, such as sequencing, genotyping, cloning or SNP analysis.

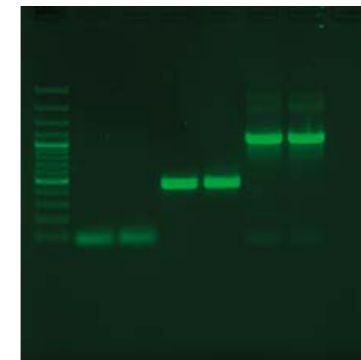
This enzymatic protocol yields 100% product recovery for even very short PCR products and it is compatible with automatic processes.

### Features

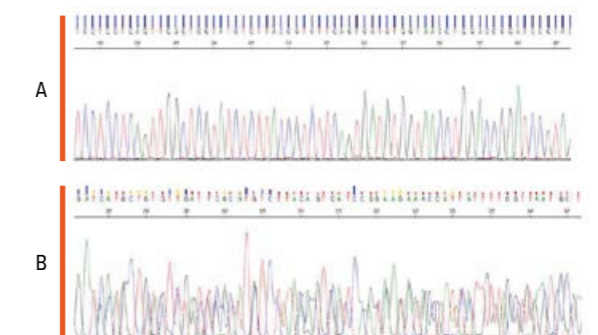
- Purification: DNA from PCR reaction mixes
- Format: Two reagents kit
- Starting materials: PCR reaction mixes
- Starting quantity: Scalable
- Protocol time: 15 min

### Protocol at-a-glance

- ✓ Addition of SAP and Exo I to PCR mix
- ✓ Incubation at 37°C
- ✓ Heat inactivation at 80°C



**Total recovery of intact PCR product:** Agarose gel showing three different PCR products before and after EuroSAP treatment. No loss of PCR product was detected even with small fragments.



**Importance of PCR clean-up before sequencing:** Two samples of PCR products were either treated (panel A) or untreated (panel B) with EuroSAP kit. The enzymatic clean-up results in significant improvement of overall sequence length and quality.

### Ordering information

Cat. Num.	Description	Size
EMR520500	EuroSAP PCR Enzymatic Clean-Up Kit	500 rxn (500 µl SAP, 500 µl Exo I)
EMR520002	EuroSAP PCR Enzymatic Clean-Up Kit	2000 rxn (4 x 500 µl SAP 2 U/µl, 4 x 500 µl Exo I 10 U/µl)

**Storage and Stability** 12 months at -20°C

**Shipping** Dry ice

## RELATED PRODUCTS

- PCR .....pag. 16
- qPCR .....pag. 17
- RT-PCR .....pag. 18
- Agaroses.....pag. 24 - 26
- DNA ladders .....pag. 27, 28

# POLYMERASES AND AMPLIFICATION

PCR, RT-PCR and qPCR are routine applications in every molecular biology lab. Our range of polymerases and PCR reagents undergoes severe and rigorous production procedures, ensuring the highest quality and the best batch-to-batch consistency.



## PCR

### Wonder Taq and Wonder Taq Hot start

Wonder Taq is a recombinant thermostable DNA polymerase engineered to give robust amplification and high yield with different PCR templates. Wonder Taq DNA Polymerase is supplied with an optimized reaction buffer already containing dNTPs, MgCl<sub>2</sub> and enhancers, avoiding the need of optimizing the reaction conditions.

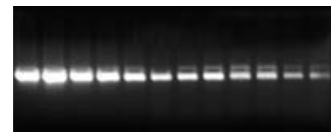
In the Hot Start version, the enzyme is complexed with a monoclonal antibody blocking the polymerase activity at room temperature and preventing non-specific amplification. Activation occurs at 70°C, during the first step of denaturation.

#### Features

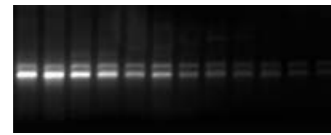
- Amplicon size: Up to 5 kb
- Resulting ends: A-tail
- Units per reaction (50 µl): 1.25 - 5
- Reaction Buffer: 5X, containing dNTPs, MgCl<sub>2</sub> and enhancers

#### Applications

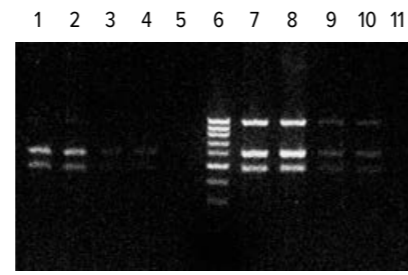
- ✓ Standard PCR
- ✓ High-yield PCR
- ✓ Fast PCR
- ✓ Colony PCR
- ✓ TA cloning
- ✓ Genotyping
- ✓ GC-rich amplification



Wonder Taq



Competitor GT



Competitor taq HS

Wonder Taq HS

**Increased yield with GC-rich targets (61% GC).** Amplification of a 450 bp fragment from serial dilutions of human genomic DNA (from 1 µg to 12,5 ng) with Wonder Taq (upper panel) or a competitor enzyme (lower panel).

**Higher yield in multiplex amplification.** Amplification of 477 bp, 489 bp and 961 bp fragments from 2 different samples of human genomic DNA were carried out using either Wonder Taq HS or a competitor HS enzyme. Lanes 1;7 and 2;8 : undiluted sample A and B respectively. Lanes 3;9 and 4;10 : 1/10 dilution of sample A and B respectively.

#### Ordering information

Cat. Num.	Description	Size
EME020001	Wonder Taq	1000 units
EME023500	Wonder Taq Hot Start	500 units

**Storage and Stability** 2 years at -20°C

**Shipping** Blue Ice

## qPCR

### FluoCycle II™ Master Mix for Real Time PCR

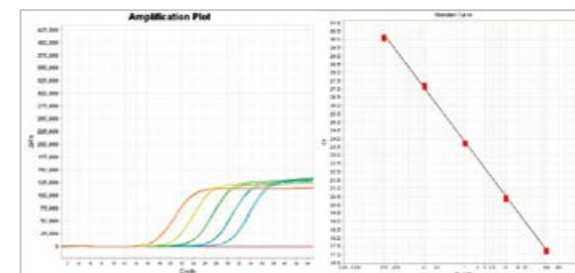
Euroclone qPCR master mixes are ready-to-use 2X solutions optimized for Real Time PCR. The master mixes include Wonder Taq Hot Start DNA polymerase and dNTPs in an optimized buffer.

The SYBR® Master Mix contains the green intercalating dye allowing DNA detection and analysis without using sequence-specific probes. Only template and primers need to be added.

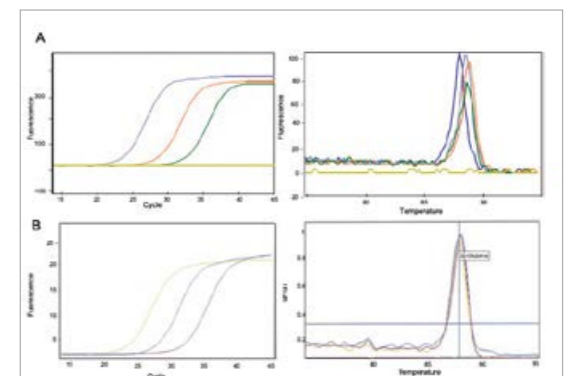
The Master Mix for Probe has been formulated for the detection of amplicon product with sequence specific fluorogenic probes. Primers, probe and template must be added before use.

#### Features

- Wide linear range
- Detection of low copy number targets
- Highly reproducibility and minimum hands-on time
- High specificity



**Linear target amplification with a dynamic range across 5 orders of magnitude of input.** Amplification plot and standard curve from real-time PCR for a dilution series of human CLUSTERIN cDNA amplified in 3 replicate reactions using the Step One Plus Real-Time PCR System, FluoCycle II Master Mix for probe and specific clusterin probe.



**Specific and reproducible qPCR with 2 different instruments using Euroclone FluoCycle II™ Master Mix.** Amplification of the human β-globin gene was performed on serial dilutions of genomic DNA. Instruments used: A: Cepheid® SmartCycler®. B: Corbett RotorGene® 3000.

#### Ordering information

Cat. Num.	Description	Size
ERD001250BIM	FluoCycle II™ Master Mix for Probe	500 rxn (reaction volume 25 µl)
ERD002250BIM	FluoCycle II™ SYBR® Master Mix	500 rxn (reaction volume 25 µl)

**Storage and Stability** 1 year at -20°C

**Shipping** Blue Ice

#### Notice to purchaser: limited license

For Research Use Only (RUO). Diagnostic uses under Roche patents require a separate license from Roche. No right under any patent claim (ex: Patents Nos. 5,210,015 and 5,487,972), no right to perform any patented method, and no right to perform commercial services of any kind, including without limitation reporting the results of purchaser's activities for a fee or other commercial consideration, is conveyed expressly, by implication, or by estoppel. Some applications this product is used in may require a license which is not provided by the purchase of this product. Users should obtain the license if required. Further information on purchasing licenses: Director of Licensing, Applied Biosystems, 850 Lincoln Centre Drive, Foster City, California 94404 USA.

## RT-PCR

## Wonder RT - cDNA Synthesis kit

NEW

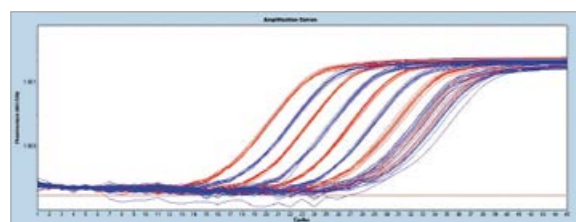
Wonder RT kit is a rapid and very sensitive method for first strand cDNA synthesis. It is a two-components system: 1) an extremely efficient reverse transcriptase allows highly robust first strand synthesis and higher cDNA yields from a wide range of input RNA concentrations; 2) a 5x Reaction Buffer Mix provides highly optimized components for efficient reverse transcription.

## Features

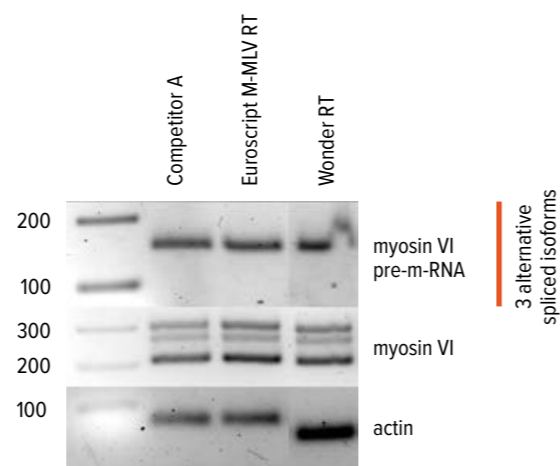
- Easy reaction set up: primers and dNTPs are included in the 5x Reaction Buffer Mix and RNase inhibitor is included in the Reverse Transcriptase Mix
- Unbiased: primers are composed of an optimized mixture of random hexamers and anchored oligo dT primers for complete 5' to 3' RNA sequence representation
- Fast: high-yield reverse transcription in as little as 25 minutes
- Robust: reliable reverse transcription even with complex templates or in the presence of inhibitors thanks to specific enhancers included in the 5x Reaction Buffer Mix
- Sensitive: down to 1 pg of input RNA and accurate detection of very low-copy targets

## Applications

- ✓ Gene expression analysis
- ✓ Tissue biopsy analysis
- ✓ miRNA profiling/quantification
- ✓ RNA target detection
- ✓ Pathogen detection



**Speed and sensitivity.** Wonder RT kit was used in first-strand cDNA synthesis reactions of total RNA, following the recommended reaction conditions. A 10-fold serial dilution of the cDNA was then used in qPCR reactions, using SYBR. The results illustrate that Wonder RT (red) is both faster and more sensitive than competitor Q (blue), as judged by the earlier Ct values and improved uniformity between standard curves of decreasing amounts of input RNA.



The yield and the intensity are similar between Wonder RT and our old Euroscript M-MLV-RT, in both case yield and intensity are superior than Competitor A. 2µl were used as a template in each PCR.

## Ordering information

Cat. Num.	Description	Size*
EME037050	Wonder RT - cDNA Synthesis kit (50 rxn)	50 rxn
EME037250	Wonder RT - cDNA Synthesis kit (250 rxn)	5 x 50 rxn

\*reaction volume 20 µl

**Storage and Stability** 2 years at -20°C

**Shipping** Dry Ice

## REAGENTS

## RNase inhibitor

RNase Inhibitor completely inhibits the activity of RNases A, B and C by non-covalent binding. It binds the RNases in a 1:1 ratio. It does not inhibit the RNases I, T1, T2, H, U1, U2 and CL3.

## Ordering information

Cat. Num.	Description	Size
EMR436050	RNase Inhibitor	2000 units (50 µl)
EMR436250	RNase Inhibitor	10000 units (250 µl)

**Storage and Stability** 1 year at -20°C

**Shipping** Blue Ice

Oligo (dT)<sub>20</sub> Primer and Random Hexamers

Oligo (dT) Primer hybridizes to the poly(A) tail of mRNA and is used as primer for first stand cDNA synthesis with reverse transcriptases. Random Hexamers are a mixture of oligonucleotides representing all possible sequences for a hexamer.

Random Hexamers are used in DNA labelling by PCR (DOP-PCR) or cDNA synthesis by RT-PCR.

## Ordering information

Cat. Num.	Description	Size
EMR433200	Oligo (dT) Primer 100 µM	200 µl
EMR433001	Oligo (dT) Primer 100 µM	1 ml
EMR428200	Random Hexamers 100 µM	200 µl
EMR428001	Random Hexamers 100 µM	1 ml

**Storage and Stability** 1 year at -20°C

**Shipping** Blue Ice

## dNTPs

Euroclone's enzymatic dNTP manufacturing process and refined purification protocols ensure the highest quality of deoxynucleotides. All our dNTPs are ultrapure (> 99%) and quality checked by a set of PCR, RT-PCR and Klenow reactions.

Euroclone dNTPs are available as single bases, set or mix. Individual nucleotides are supplied as single ready-to-use 100 mM solutions or as a 4 x 250 µl set. The dNTP mix consist of a mixture of dATP, dCTP, dGTP and dTTP (final concentration of each nucleotide 10 or 25 mM).

Euroclone dNTPs have the highest purity, are free of strong PCR inhibiting contaminants as tetraphosphates and pyrophosphates. All lots are checked on HPLC for their purity using a sensitive acetonitrile gradient in 20 mM  $\text{KH}_2\text{PO}_4$ , 2 mM  $\text{TBA-SO}_4$  on a Eurospher-100 C18 RP-column (4 x 250 mm). Detection occurs at 254 nm.

### Ordering information

Cat. Num.	Description	Size
EMR272025	dATP 100 mM Solution	250 µl (25 µmol)
EMR273025	dCTP 100 mM Solution	250 µl (25 µmol)
EMR274025	dGTP 100 mM Solution	250 µl (25 µmol)
EMR275025	dTTP 100 mM Solution	250 µl (25 µmol)
EMR276425	dNTP set	4 x 250 µl (4x25 µmol)
EMR276001	dNTP set	4 x 1 ml (4 x 100 µmol)
EMR415001	dNTP Mix 25 mM solution	1 ml (25 µmol)
EMR416200	dNTP Mix 10 mM solution	200 µl (2 µmol)
EMR416001	dNTP Mix 10 mM solution	1 ml (10 µmol)

**Storage and Stability** 1 year at -20°C

**Shipping** Blue Ice

## dNTPs Mix with dUTP

dNTP mix including dUTP, is a mixture of 10 mM ultrapure dATP, dCTP, dGTP and 20 mM dUTP.

### Ordering information

Cat. Num.	Description	Size
EMR414025	dNTPs/dUTPs Set	200 µl

**Storage and Stability** 1 year at -20°C

**Shipping** Blue Ice

## NTPs

Nucleotide Triphosphates (NTPs) are available as 100 mM ready-to-use solution.

Our NTP solutions are optimized for in vitro transcription with the common polymerases and the major commercially available transcription kits.

### Ordering information

Cat. Num.	Description	Size
EMR423001	ATP 100 mM solution	1 ml (100 µl)
EMR424001	CTP 100 mM solution	1 ml (100 µl)
EMR425001	GTP 100 mM solution	1 ml (100 µl)
EMR426001	UTP 100 mM solution	1 ml (100 µl)

**Storage and Stability** 1 year at -20°C

**Shipping** Blue Ice

## RELATED PRODUCTS

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<b>Agaroses</b> .....	pag. 24 - 26
<b>DNA ladders</b> .....	pag. 27, 28
<b>Plastic for Molecular Biology</b> .....	pag. 38 - 54

# NUCLEIC ACIDS ELECTROPHORESIS

Separation of nucleic acids basing on their size on agarose gel is a very common analytical technique applied in several molecular biology process flows such as PCR amplification, sequencing, cloning, or blotting. Our selection of agaroses, stain and DNA ladders will help to achieve optimal results in every experiment.

## Agaroses

Euroclone offers a complete selection of high-quality agaroses for standard and specific electrophoresis applications.

	Agarose LE	GellyPhor® LE	GellyPhor® LM	GellyPhor® ULTRA	GellyPhor® HR	GellyPhor® PFGE
DNA separation 1-50 kb	-	-	-	-	-	✓
DNA/RNA separation ≤1 kb	✓	✓	-	✓	✓	-
DNA/RNA separation ≥1 kb	✓	✓	✓	-	-	✓
DNA separation 20-800 bp	-	-	-	✓	-	-
Blotting	✓	✓	-	-	✓	✓
DNA finger printing	✓	✓	-	-	-	-
Nucleic Acid Recovery	✓	✓	✓	✓	✓	✓

### Agarose LE Agarose for Nucleic Acids routine screening electrophoresis

Agarose LE is a multi-purpose agarose with low EEO and standard melting point, ideal for routine DNA and RNA gel electrophoresis and blotting. Its optimized gel strength makes gel processing and handling easy. It yields sharp DNA bands with high clarity and low background.

#### Technical Specification

- Gelling Temperature (1,5%): 36°C ± 1,5°C
- Moisture: ≤ 10%
- Gel strength (1%): ≥ 1200 g/cm<sup>2</sup>
- EEO: ≤ 0,13 (-m)
- Sulphate: ≤ 0,20%
- RNase/DNase Activity: None detected

#### Ordering information

Cat.	Description	Size
EMR920500	Agarose LE Agarose for Nucleic Acids routine screening electrophoresis	500 g

**Storage and Stability** 5 years at Room Temperature

**Shipping** Room Temperature

### GellyPhor® LE

GellyPhor® LE is ideal for general nucleic acids preparative and analytical gel electrophoresis as well as for blotting.

This gel sharply resolves the different DNA fragments to be analyzed and provides consistent resolution from batch-to-batch. It forms high strength gels with low background upon staining with ethidium bromide or alternative safer reagents. Due to the low electroendosmosis value (EEO) of GellyPhor® LE, the DNA has a high electrophoretic mobility allowing shorter running time.

#### Technical Specification

- Gelling Temperature (dynamic measurement in 1.5% solution): 34 - 38°C
- Gel strength (1%): ≥ 1200 g/cm<sup>2</sup>
- EEO: ≤ 0,12 (-m)
- Sulphate: ≤ 0,14%
- Moisture: ≤ 8,5%
- Residue on ignition: ≤ 0,60%
- RNase/DNase Activity: None detected

#### Ordering information

Cat. Num.	Description	Size
EMR010100	GellyPhor® LE	100 g
EMR010500	GellyPhor® LE	500 g
EMR010001	GellyPhor® LE	1 kg

**Storage and Stability** 5 years at Room Temperature

**Shipping** Room Temperature

### GellyPhor® LM

GellyPhor® LM is a low melting temperature agarose. This molecular biology grade agarose produces gels with greater sieving properties and higher clarity than standard melting temperature agarose. The low melting temperature of GellyPhor® LM makes it ideal for preparative nucleic acids electrophoresis, while its low gelling temperature is perfect for cloning of tissue culture cells and viral plaque assays.

#### Technical Specification

- Gelling Temperature (dynamic measurement in 1.5% solution): 24 - 28°C
- Gel strength (1,5%): ≥ 500 g/cm<sup>2</sup>
- EEO: ≤ 0,12 (-m)
- Sulphate: ≤ 0,12%
- Moisture: ≤ 7%
- Melting Temperature (1,5%): ≤ 65,5°C
- RNase/DNase Activity: None detected

#### Ordering information

Cat. Num.	Description	Size
EMR911100	GellyPhor® LM	100 g

**Storage and Stability** 5 years at Room Temperature

**Shipping** Room Temperature

### GellyPhor® HR

GellyPhor® HR is a molecular biology grade standard melting temperature agarose, that yields strong gels for fine resolution of small nucleic acids fragments. Performance testing of GellyPhor® HR ensures fine resolution of DNA fragments up to 1000 bp, though this agarose is capable of finely resolving DNA fragments ranging from 10 bp up to 1200 bp. GellyPhor® HR is designed for analytical electrophoresis.

#### Technical Specification

- Gelling Temperature (dynamic measurement in 3% solution): 35,5°C
- Gel strength: ≥ 600 g/cm<sup>2</sup> (for a 1,5% gel), ≥ 1500 g/cm<sup>2</sup> (for a 3% gel)
- EEO: ≤ 0,12 (-m)
- Sulphate: ≤ 0,11%
- Moisture: ≤ 7%
- Melting Temperature (3%): ≤ 80°C
- RNase/DNase Activity: None detected

#### Ranges of separation\*

- 1,8%: 400 - 1200 bp
- 3%: 150 - 800 bp
- 4,5%: 15 - 400 bp

(\* These ranges are approximate and have been calculated in TAE Buffer. To achieve the best resolution of GellyPhor® HR gels, they should be stored at 4°C/8°C for 30 minutes before use.

#### Ordering information

Cat. Num.	Description	Size
EMR912100	GellyPhor® HR	100 g

**Storage and Stability** 5 years at Room Temperature

**Shipping** Room Temperature

## GellyPhor® ULTRA

GellyPhor® ULTRA is an intermediate melting temperature agarose that provides twice the resolution capabilities of the finest sieving agarose products. You can resolve DNA fragments, PCR and RT-PCR products differing in size by 2%, in the range of 200 bp to 800 bp, by horizontal gel electrophoresis (for example, a 200 bp DNA fragment can be separated from a 204 bp fragment). Using fast run protocols, DNA fragments differing in size by 1% can be resolved in as little as 1.5 hours in a 20 cm long horizontal or vertical gel format. GellyPhor® ULTRA agarose gels (2% to 4%) approximate the resolution of polyacrylamide gels (4% to 8%).

### Technical Specification

- Gelling Temperature (dynamic measurement in 3% solution):  $\leq 36^{\circ}\text{C}$
- Gel strength (3%):  $\geq 400 \text{ g/cm}^2$
- EEO:  $\leq 0.02 - 0.05$  (-m)
- Moisture:  $\leq 10\%$
- Melting Temperature (3%):  $\leq 75^{\circ}\text{C}$
- RNase/DNase Activity: None detected

### Ordering information

Cat. Num.	Description	Size
EMR915100	GellyPhor® ULTRA	125 g

**Storage and Stability** 5 years at Room Temperature

**Shipping** Room Temperature

## GellyPhor® PFGE

GellyPhor® PFGE is a very high gel strength, low EEO, standard gelling temperature agarose. Due to its high gel strength, this agarose can be used for the preparation of low percentage gels for the analysis not only of high molecular weight nucleic acids (such as chromosomes), but also of large-sized particles such as viruses and ribosomes.

### Technical Specification

- Gelling Temperature (dynamic measurement in 1.5% solution):  $\leq 36 \pm 1.5^{\circ}\text{C}$
- Gel strength :  $\geq 1600 \text{ g/cm}^2$  (for a 1% gel),  $\geq 3000 \text{ g/cm}^2$  (for a 1.5% gel)
- EEO:  $< 0.13$  (-m)
- Moisture:  $\leq 7\%$
- Melting Temperature (1.5%):  $\leq 1.5^{\circ}\text{C}$
- RNase/DNase Activity: None detected

### Ordering information

Cat. Num.	Description	Size
EMR916100	GellyPhor® PFGE	100 g

**Storage and Stability** 5 years at Room Temperature

**Shipping** Room Temperature

## Reagents for nucleic acids electrophoresis

### Gel Staining

#### EuroSafe - Nucleic Acid Stain

EuroSafe Nucleic Acid Staining Solution (20,000x) is a safe nucleic acid stain, alternative to the traditional ethidium bromide (EtBr) staining for the detection of nucleic acid in agarose gels. It emits green fluorescence when bound to DNA or RNA. This stain has two fluorescence excitation maxima when bound to nucleic acid, one centered at 309 nm and another at 419 nm. In addition, it has one visible excitation at 514 nm. The fluorescence emission of EuroSafe bound to DNA is centered at 537 nm. EuroSafe is as sensitive as EtBr. Compared to EtBr, known as a strong mutagen, it causes much fewer mutations in the Ames test. In addition, EuroSafe Nucleic Acid Staining Solution (20,000x) has a negative result in mouse marrow chromophilous erythrocyte micronucleus test and mouse spermary spermatocyte chromosomal aberration test.

#### Features

- Used for detecting DNA e RNA
- Alternative to the ethidium bromide staining
- As sensitive as EtBr or more sensitive than that
- Less mutagenic than EtBr

### Ordering information

Cat. Num.	Description	Size
EMR440001	EuroSafe	1 ml

**Storage and Stability** 5 years at Room Temperature

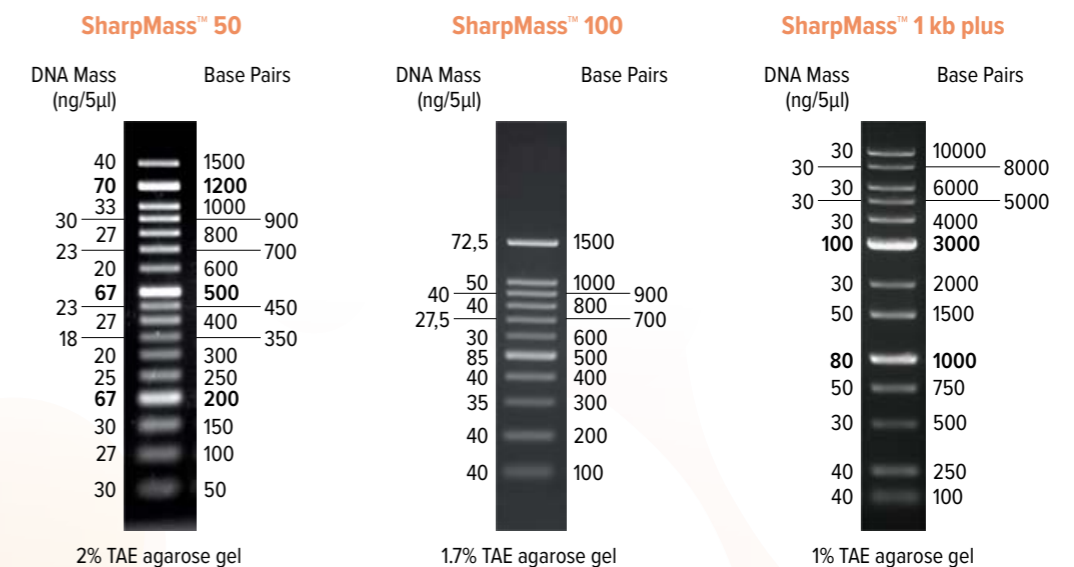
**Shipping** Room Temperature

### DNA Ladders

Euroclone has three different DNA Ladders for sizing and approximate quantification of double-stranded DNA fragments such as PCR or restriction digestion products. The ladders have extremely sharp bands and reference bands with higher DNA content for easy orientation. They are designed to show virtually uniform spacing over a wide fragment range.

#### Features

- It is possible to approximate the mass of DNA in comparably intense samples of similar size
- No extraneous high molecular weight bands
- Value - load only 5  $\mu\text{l}$ /lane
- Easy-to-identify reference bands



### SharpMass™ 50 Ready-To-Load DNA Ladder

SharpMass™ 50 Ready-to-load DNA Ladder consists of 17 DNA fragments ranging from 50 bp to 1.5 kb. The 200, 500 and the 1200 base pair fragments have enhanced brightness and can be used as reference points. The fragment mix is supplied in ready-to-use format containing Orange G as tracking dye.

### SharpMass™ 100 Ready-To-Load DNA Ladder

SharpMass™ 100 Ready-to-load DNA Ladder consists of 11 DNA fragments ranging from 100 bp to 1.5 kb. The 500 and the 1500 base pair fragments have enhanced brightness and can be used as reference points. The fragment mix is supplied in ready-to-use format containing orange and blue tracking dyes.

### SharpMass™ 1 kb plus Ready-To-Load DNA Ladder

NEW

SharpMass™ 1 kb plus Ready-to-load DNA Ladder consists of 13 DNA fragments ranging from 0,10 kb to 10 kb. The 1000 bp and the 3000 bp base pair fragments have enhanced brightness and can be used as reference points. The fragment mix is supplied in ready-to-use format containing bromo-phenol blue and xylene cyanol FF tracking dyes.

#### Ordering information

Cat. Num.	Description	Size
EMR810100	SharpMass™ 50 - Ready-to-load DNA Ladder	100 lanes
EMR814100	SharpMass™ 100 - Ready-to-load DNA Ladder	100 lanes
EMR816100	SharpMass™ 1 kb plus - Ready-to-load DNA Ladder	100 lanes

**Storage and Stability** 6 months at 25°C or 12 months at 4°C. Maximal stability (24 months) is achieved at -20°C.

**Shipping** Blue Ice

## RELATED PRODUCTS

**Nucleic Acids Isolation Systems**.....pag. 8 - 13

**PCR** .....pag. 16

**RT-PCR** .....pag. 18

# PROTEINS QUANTITATION, ELECTROPHORESIS AND WESTERN BLOTTING

The study of proteins' expression and of their role in cells is one of the main goals in every research program. Our essential products for protein research cover proteins quantitation, electrophoresis and Western Blotting offering reliability, efficiency and reproducibility.



## Protein Quantitation

Euroclone protein assay kits are based on the use of bicinchoninic acid (BCA) for the rapid and sensitive detection and quantitation of total protein content. The BCA method is faster and easier than Lowry, with much greater tolerance to interference from non-ionic detergents and buffer salts.

The BCA method combines the biuret reaction, i.e. the reduction of  $\text{Cu}^{2+}$  ions to  $\text{Cu}^+$  by proteins in an alkaline medium with complexation of the latter with bicinchoninic acid. The purple-colored Cu-BCA complex displays a strong absorbance at 562 nm which is proportional to protein concentration over a broad working range (20-2.000  $\mu\text{g/ml}$  for Quantum Protein and 0.5-20  $\mu\text{g/ml}$  for Quantum Micro Protein).

Protein concentrations are generally determined with reference to standards of a common protein such as Bovine Serum Albumin (BSA). If a more accurate quantitation of an unknown protein is required, the calibration curve has to be constructed using a protein similar to the unknown one.

### Quantum Protein & Quantum Micro Protein Assays

#### Features

- Easy to use
- Compatible with most common ionic and non-ionic detergents
- Faster than Lowry method
- Linear working range from 20-2.000  $\mu\text{g/ml}$  (BCA) or 0.5-20  $\mu\text{g/ml}$  (micro BCA)
- Working solution extremely stable
- Protocol flexibility to increase the sensitivity of the assay
- Cuvette or microplate format

#### Protocol at a glance (Quantum Protein)

- ✓ Prepare working solution (reagent A plus B ratio 5:1)
- ✓ Add 2 ml working reagent to 100  $\mu\text{l}$  sample
- ✓ Incubate 30 min at 37°C
- ✓ Read at 562 nm

#### Ordering information

Cat. Num.	Description	Size
EMP014500	Quantum Protein kit (Linear working range 20-2000 $\mu\text{g/ml}$ )	500 tube assays
EMP015480	Quantum Micro Protein kit (Linear working range 0.5-20 $\mu\text{g/ml}$ )	480 tube assays

**Storage and Stability** 1 year at Room Temperature

**Shipping** Room Temperature

## Protein Molecular Weight Markers

Prestained SharpMass™ VI and VII are designed for monitoring protein separation during SDS-polyacrylamide gel electrophoresis, verification of Western blot transfer efficiency on membranes (PVDF, nylon, or nitrocellulose) and for approximating the protein size. Markers are supplied in gel loading buffer and are ready to use: no need of heating, diluting, adding reducing agent before loading.

#### Features

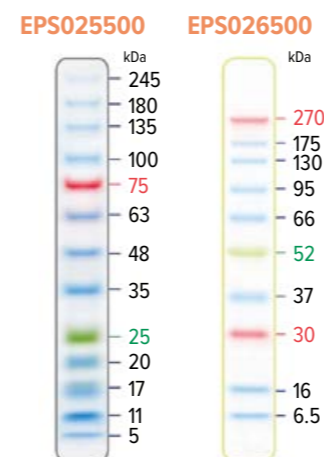
- Ready-to-load
- Broad range of bands
- Colored reference bands
- Stable at Room Temperature for up to 2 weeks

### Prestained Protein SharpMass™ VI

Prestained Protein SharpMass™ VI is a three-color protein standard with 13 pre-stained proteins covering a wide range molecular weights from 5 to 245 kDa when separated on SDS-PAGE (Tris-glycine buffer). Proteins are covalently coupled with a blue chromophore except for two reference bands (one green and one red band at 25 kDa and 75 kDa respectively).

### Prestained Protein SharpMass™ VII

Prestained Protein SharpMass™ VII is a three-color protein standard with 10 pre-stained proteins covering a wide range molecular weights from 6,5 kDa to 270 kDa when separated on SDS-PAGE (Tris-glycine buffer). Proteins are covalently coupled with a blue chromophore except for three reference bands (two orange bands at 30 kDa and 270 kDa and one green band at 52 kDa).



Bands pattern of prestained protein SharpMass™ VI and SharpMass™ VII in 20% Tris-Glycine SDS-Page.

#### Ordering information

Cat. Num.	Description	Size
EPS025500	Prestained Protein SharpMass™ VI	500 $\mu\text{l}$
EPS026500	Prestained Protein SharpMass™ VII	500 $\mu\text{l}$

**Storage and Stability** Up to 2 weeks at RT. Up to 3 months at 4°C. 24 months at -20°C.

**Shipping** Blue ice

## Chemiluminescent Substrates for Western Blotting

Euroclone offers a complete range of chemiluminescent substrates to satisfy any need in terms of reliability, sensitivity and signal duration. In addition, all chemicals contained in these substrates have been carefully selected for safety: none of the components has been reported to be hazardous to human health.

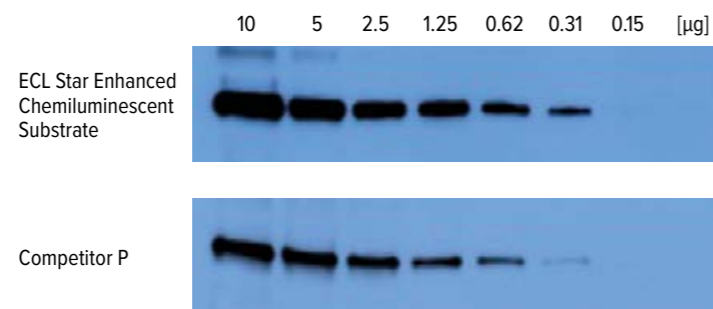
	ECL Star Cat. EMP001005	LiteUP Cat. EMP002005	LiteAblot EXTEND Cat. EMP013001	LiteAblot TURBO Cat. EMP012001
Signal Intensity				
Sensitivity	Picograms	Picograms to mid femtograms	Mid femtograms	Low femtograms
Signal Duration	Up to 4 hrs	Up to 4 hrs	24 hrs	8 hrs
Volume	250 ml + 250 ml	250 ml + 250 ml	50 ml + 50 ml	50 ml + 50 ml
Recommended Antibodies dilutions (1 mg/ml stock solution)	Primary Ab: 1/100-1/5000 Secondary Ab: 1/1000-1/15000	Primary Ab: 1/1000-1/15000 Secondary Ab: 1/25000-1/150000	Primary Ab: 1/1000-1/50.000 Secondary Ab: 1/50000-1/250000	Primary Ab: 10-200 ng/ml Secondary Ab: 1/100000-1/500000

### ECL Star Enhanced Chemiluminescent Substrate

ECL Star Enhanced Chemiluminescent Substrate is a two-components, non-radioactive light emitting substrate for the detection of picograms amounts of immobilized specific antigens, conjugated directly or indirectly with horseradish peroxidase HRP-labelled antibodies. It is an excellent chemiluminescent reagent for daily routine WB analysis.

#### Features

- Optimized sensitivity
- Low Background
- Working solution stable up to 5 days
- Signal duration up to 4 hours



Actin protein expression in a serial dilution of HeLa cells lysate was detected by Western blotting. Image acquisition by imager, exposure time of 60 seconds. ECL Star enhanced chemiluminescent substrate shows a high signal intensity and low background, allowing to achieve better performance than other competitors.

#### Ordering information

Cat. Num.	Description	Size
EMP001005	ECL Star Enhanced Chemiluminescent Substrate	250 ml + 250 ml (5000 cm <sup>2</sup> )

**Storage and Stability** 1 year at room temperature

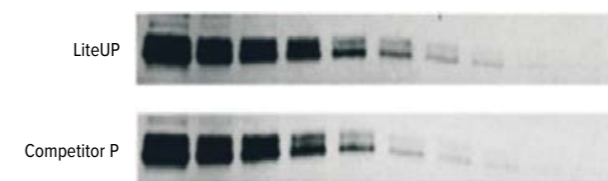
**Shipping** Room Temperature

### LiteUP WB Chemiluminescent Substrate

LiteUP WB Chemiluminescent Substrate is a two-component, a non-radioactive light emitting substrate for the detection of amounts ranging from picograms to mid-femtograms of immobilized specific antigens, conjugated directly or indirectly with HRP-labelled antibodies. It gives optimal performances when the Western Blot needs a high and stable signal intensity and a good sensitivity on medium expressed proteins.

#### Features

- High signal-to-noise ratio
- Storage at Room Temperature
- Working solution stable up to 3 days
- Signal duration up to 4 hours
- Cost-effective



Analysis of MAP kinase expression (ERK 1/2) in a serial dilution of HeLa cell lysate; image acquisition by imager; exposure time of 120 seconds.

#### Ordering information

Cat. Num.	Description	Size
EMP002005	LiteUP WB Chemiluminescent Substrate	250 ml + 250 ml (5000 cm <sup>2</sup> )

**Storage and Stability** 1 year at room temperature

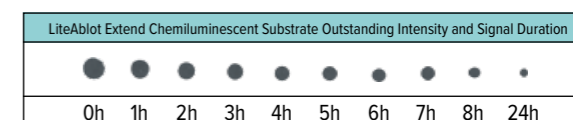
**Shipping** Room Temperature

### LiteAblot® EXTEND - Long Lasting Chemiluminescent Substrate

LiteAblot® EXTEND is two-components substrate and has been specifically formulated to provide an intense and extremely stable chemiluminescent signal. For this reason, this product is particularly suggested to customers using imaging systems based on cooled charge coupled device (CCD) technology. Considering the high sensitivity of this substrate compared to standard "ECL-like" products, it can be necessary to dilute primary and secondary antibodies much further.

#### Features

- Excellent sensitivity
- Long lasting signal, stable up to 24 hours



Images of a 50 pg dot blot incubated 5 minutes with LiteAblot® EXTEND. The signal has been captured with a NighOwl Luminograph (Berthold Technologies). Readings were taken at the indicated times after incubation, with an exposure time of 10 minutes, except for the last reading (1 hour).

#### Ordering information

Cat. Num.	Description	Size
EMP013001	LiteAblot® EXTEND	50 ml + 50 ml (1000 cm <sup>2</sup> )

**Storage and Stability** 1 year at 4°C

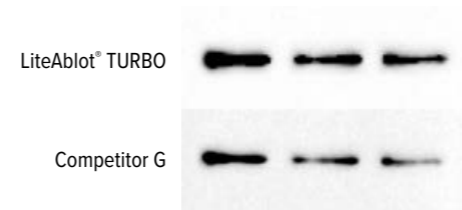
**Shipping** Room Temperature

## LiteAblot® TURBO - Extra Sensitive Chemiluminescent Substrate

LiteAblot® TURBO is Euroclone's chemiluminescent substrate with the highest sensitivity allowing the detection of very low amounts of proteins. It is a two-components reagent. Due to the extreme sensitivity of the substrate it is critical to optimize the primary and secondary antibody dilutions and the exposure times.

### Features

- Maximal sensitivity
- Detection of low abundant proteins
- Signal stable up to 8 hours



Analysis of actin expression in a serial dilution of HeLa cell lysate. Film exposure time 60 seconds.

### Ordering information

Cat. Num.	Description	Size
EMP012001	LiteAblot® TURBO	50 ml + 50 ml (1000 cm <sup>2</sup> )

**Storage and Stability** 1 year at 4°C

**Shipping** Room Temperature

## Stripping

### StripAblot Stripping Buffer

StripAblot is a ready-to-use buffer for the efficient stripping of Nitrocellulose and PVDF membranes probed by Western blotting procedures and detected by chemiluminescent or other non-precipitating substrates. StripAblot Buffer is a robust but gentle formulation for stripping primary and secondary antibodies from blots to enable several reprobings on the same membrane.

### Features

- Ready-to-use
- Rapid protocol (5-15 minutes)
- Mercaptoethanol free

### Ordering information

Cat. Num.	Description	Size
EMP100500	StripAblot	500 ml

**Storage and Stability** 1 year at RT or 4°C

**Shipping** Room Temperature

# PLASTIC FOR MOLECULAR BIOLOGY

PCR, Real Time PCR and sequencing techniques require high quality plates, strips and sealings.

Euroclone PCR consumables are made for a variety of thermal cyclers, real-time PCR systems and sequencers for optimal cycling performing.

## **Manufacturing and Quality Control**

All plastic consumables are produced under clean-room conditions in modern injection moulding facilities. Particles, bacterial cells and other contaminants are filtered from the atmosphere. Products undergo a wide range of QC inspections during and after the production process. Visual and biological tests ensure both the absence of contaminants and the integrity of quantitative PCR. In particular, the absence of nucleases (DNases and RNases), pyrogens and human genomic DNA is verified by functional QC. LAL-assay are used to test raw materials and finished products for the presence of endotoxins.

## **Barcoding**

All skirted and semi-skirted plates are available with linear barcodes for identification and traceability. The labels are highly scratch resistant and can withstand cold storage (-80°C) and solvents, such as DMSO. Either single or double barcodes are available.

*Framestar® PCR plates are covered by one or more of the following U.S. patents or their foreign counterparts, owned by Eppendorf AG: US patent nos. 7,347,977 and 6,340,589. Framestar® is a registered trademark owned by 4titude® Ltd.*

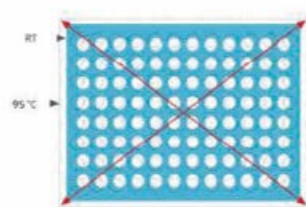
## FrameStar® Plates

FrameStar® PCR plates maximise thermal stability at high temperatures preventing sample loss by minimising thermal expansion during PCR. The two-component design combines the advantages of thin wall polypropylene tubes for optimum PCR results and a rigid polycarbonate skirt and deck for highest thermal stability and rigidity. In contrast to standard one-piece PCR plates, evaporation from corner positions and outer rows is minimal, allowing for downscaling of reagent volumes and cost saving.

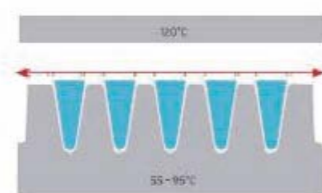
- ✓ Two-component technology reduces thermal expansion and sample evaporation.
- ✓ Reduction of evaporation leads to improved consistency of PCR results.
- ✓ Ideal for robotics, as plate distortion is eliminated post-PCR. Well spacing and position post-PCR remain accurate, so liquid handling devices can reliably add or remove the smallest quantities from the plate.
- ✓ FrameStar® is ideal for assay miniaturisation due to no-warping rigid skirt giving better sealing properties.
- ✓ Cost saving due to downscaling of reaction volumes.
- ✓ Lack of warpage reduces variation of fluorescent signals in optical assays, such as qPCR.

### Reduced evaporation and improved consistency of PCR results

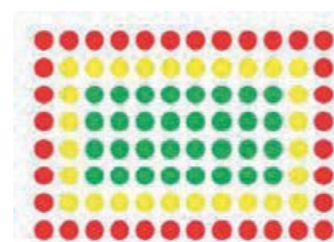
Polypropylene (PP) is the optimum material for PCR tubes: it provides the most efficient heat transfer, as well as an inert surface with low binding capabilities for nucleic acids, proteins and other molecules. However, the material is not thermally stable in a plate format and expands and contracts during each PCR cycle (Fig. 1). Such thermal expansion will weaken the plate seal and leads to sample evaporation mainly from corner wells and outer rows. PCR blocks do not support PCR plates from the sides and the high temperatures from the thermal block and heated lid accelerate expansion of the plates (Fig. 2). Since thermal expansion and movement of wells in one-piece PP plates is enhanced around the edges of the plates (see Fig. 1) evaporation is the highest from the two outer rows of wells. Figure 3 illustrates the levels of sample evaporation from different areas of PP plates. Only the inner 32 wells of a one-piece 96 well plate show low levels of evaporation, so sample loss is high from the two outer rows, meaning more than 65% of the wells.



**Figure 1**  
Standard plates with polypropylene frame expand by up to 2 mm during thermal cycling leading to movement of wells away from the plate centre. This movement is most significant in corner positions and outer rows of the plate. Sealing sheets do not expand this rate and, as a consequence, they get weakened leading to evaporation especially in corner positions and outer rows.



**Figure 2**  
Side-on view of a PCR plate in a thermal cycler. The sealed plate is sandwiched between the cycler block and the heated lid but it is only partly fixed in position at the bottom of tubes, allowing the plate to expand horizontally.



**Figure 3**  
Evaporation from the outer rows (red) is highest, medium level evaporation occurs in the second row (yellow) and sample loss from the inner 32 wells is lowest.

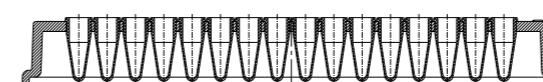
## FrameStar® 384 Well

Designed for high-throughput PCR, FrameStar® 384 is compatible with the majority of 384 block PCR, qPCR and sequencing instruments. The rigid two-component design eliminates warping and distortion during PCR making it ideal for use with robotic systems.

### Features

- Recommended for low volume PCR
- Ideal for use with robotic systems
- Alphanumeric grid reference
- Compatible with majority of 384 block PCR, qPCR
- 30 µl recommended working capacity (55 µl max capacity)

Plate width:	127.76±0.25 mm
Plate depth:	85.48±0.25 mm
Plate height (a):	10.60±0.25 mm
Well depth (b):	9.60±0.10 mm
Well diameter (c):	3.10±0.10 mm
Distance to centre of A1 from top edge:	8.99±0.25 mm
Distance to centre of A1 from left edge:	12.13±0.25 mm
Pitch (distance between A1 and A2):	4.5 mm



### Ordering information\*

Cat. Num.	Description	Qty/Case
ECPCR0384C	Framestar® 384 Well plate clear wells	50

\* Please inquire for Roche Light Cycler® 480 Framestar® semi skirted plates

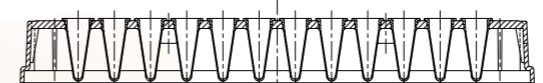
## FrameStar® 96 Well Skirted Low Profile

Low profile plates have shorter wells than standard profile plates, decreasing the “dead space” between the heated lid of the thermal cycler and the sample. This eliminates condensation on the side wall of the tube, preventing reduction in PCR volume and increasing the efficiency of the reaction. Low profile products are especially recommended for use with reaction volumes below 20 µl. The rigid two-component design eliminates warping and distortion during PCR making it ideal for use with robotic systems.

### Features

- Clear wells
- Raised well rims prevent cross contamination and facilitate sealing
- Suitable for cap sealing (ECPCR0751 and ECPCR0752), adhesive and thermal sealing
- Low profile
- 150 µl recommended working capacity (200 µl max capacity)

Plate width:	127.76±0.25 mm
Plate depth:	85.48±0.25 mm
Plate height (a):	16.90±0.25 mm
Well depth (b):	15.10±0.10 mm
Well diameter (c):	5.50±0.10 mm
Distance to centre of A1 from top edge:	11.24±0.25 mm
Distance to centre of A1 from left edge:	14.38±0.25 mm
Pitch (distance between A1 and A2):	9.00 mm



### Ordering information

Cat. Num.	Description	Qty/Case
ECPCR0960C	Framestar® 96 well plate Skirted Low Profile	50

### Framestar® 96 Semi skirted Standard Profile (cut corner A12)

Specifically designed to be directly compatible with all major thermal cyclers including all ABI instruments, this plate can be used directly in ABI 96well instruments with no adapters necessary. The rigid two-component design eliminates warping and distortion during PCR making it ideal for use with robotic systems. The semi-skirt allows for labelling or barcoding. The plate is available also with upstand.

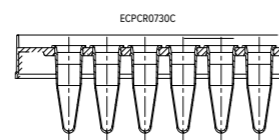
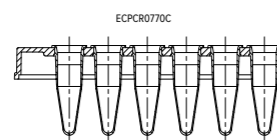
#### Features

- Optimised for ABI thermal cyclers & sequencers
- Cut-off corner at A12
- Clear wells
- Raised well rims prevent cross contamination and facilitate sealing
- Suitable for cap sealing (ECPCR0751 and ECPCR0752), adhesive and thermal sealing
- 250 µl recommended working capacity (300 µl max capacity)
- Available with upstand



ECPCR0770C

124,26±0,25 mm	Plate width	124,26±0,25 mm
83,97±0,25 mm	Plate depth	83,97±0,25 mm
20,70±0,25 mm	Plate height (a)	23,20±0,25 mm
20,20±0,10 mm	Well depth (b)	20,20±0,10 mm
5,46±0,10 mm	Well diameter (c)	5,46±0,10 mm
10,495±0,25 mm	Distance to centre of A1 from top edge	10,495±0,25 mm
12,63±0,25 mm	Distance to centre of A1 from left edge	12,63±0,25 mm
9,00mm	Pitch (distance between A1 and A2)	9,00mm



ECPCR0730C

#### Ordering information\*

Cat. Num.	Description	Qty/Case
ECPCR0770C	Framestar® 96 well plate, semi-skirted, clear wells	50
ECPCR0730C	Framestar® 96 well plate, semi-skirted with upstand, clear wells	50

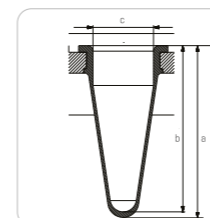
\* Please inquire for Roche Light Cycler® 480 Framestar® semi skirted plates

### Framestar® Fast Plate 96 Semi skirted (recommended for ABI Fast Block Thermal cyclers)

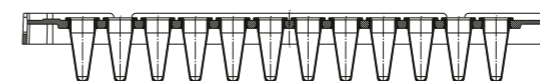
This semi-skirted low-profile plate is recommended for ABI Fast Block thermal cyclers. Low profile plates have shorter wells than standard profile plates, decreasing the "dead space" between the heated lid of the thermal cycler and the sample. This eliminates condensation on the side wall of the tube, preventing reduction in PCR volume and increasing the efficiency of the reaction. Low profile products are especially recommended for use with reaction volumes below 20 µl. The rigid two-component design eliminates warping and distortion during PCR making it ideal for use with robotic systems. The semi-skirt allows for labelling or barcoding.

#### Features

- Recommended for ABI Fat Block thermal cyclers
- Clear wells
- Raised well rims prevent cross contamination and facilitate sealing
- Suitable for cap sealing (ECPCR0751 and ECPCR0752), adhesive and thermal sealing
- Low profile
- 150 µl recommended working capacity (200 µl max capacity)



127,76±0,25 mm	Plate width:
85,48±0,25 mm	Plate depth:
16,7±0,25 mm	Plate height (a):
15,30±0,10 mm	Well depth (b):
5,50±0,10 mm	Well diameter (c):
11,24±0,25 mm	Distance to centre of A1 from top edge:
14,38±0,25 mm	Distance to centre of A1 from left edge:
9,00 mm	Pitch (distance between A1 and A2):



#### Ordering information

Cat. Num.	Description	Qty/Case
ECPCR0910C	FrameStar® 96 well plate semi skirted, clear wells recommended for ABI Fast cyclers	50

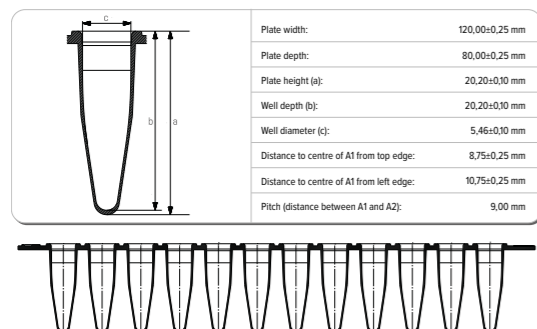
## Standard Plates

The thin-walled tubes of Euroclone standard PCR plates maximise heat transfer and the raised rims facilitate sealing. The range consists of non-skirted, two semi-skirted and a fully skirted plate.

### Primo® 96 well Plate, Non-skirted

#### Features

- Compatible with most thermal cyclers and sequencers
- Clear wells
- Black grid reference for easy sample identification
- Cut-off corner at H12
- Raised well rims prevent cross contamination and facilitate sealing
- Suitable for cap sealing (ECPCR0751 and ECPCR0752)
- 250 µl recommended working capacity (300 µl max capacity)



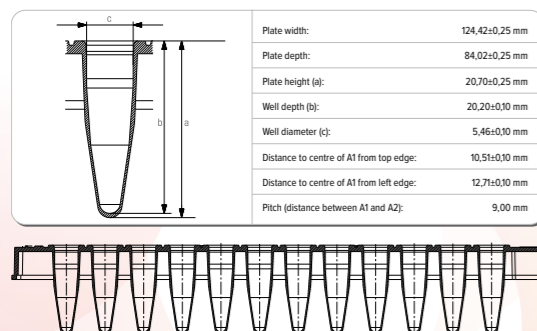
#### Ordering information

Cat. Num.	Description	Qty/Case
ECPCR0750C	Primo® 96 well plate non-skirted, clear wells	50

### Primo® 96 well Plate, Semi-skirted

#### Features

- Compatible with most thermal cyclers and sequencers
- Clear wells
- Black grid reference for easy sample identification
- Cut-off corner at A12
- Raised well rims prevent cross contamination and facilitate sealing
- Suitable for cap sealing (ECPCR0751 and ECPCR0752), heat and adhesive sealing
- Suitable for bar-coding
- 250 µl recommended working capacity (300 µl max capacity)



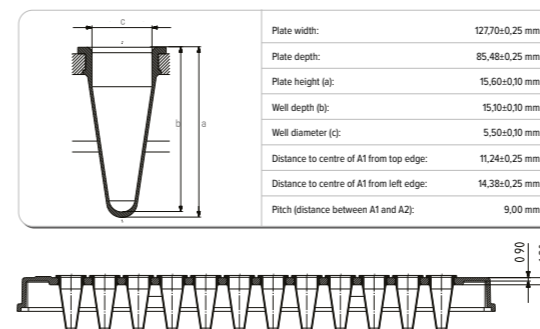
#### Ordering information

Cat. Num.	Description	Qty/Case
ECPCR0760	Primo® 96 well plate Semi-skirted, clear wells	50

### Primo® 96 well Plate, Semi-skirted, low profile, optimized for LightCycler® 480

#### Features

- Optimized for use with Lightcycle® 480
- White wells, low profile
- Black grid reference for easy sample identification
- Cut-off corner at H12
- Raised well rims prevent cross contamination and facilitate sealing
- Suitable for cap sealing (ECPCR0751 and ECPCR0752), heat and adhesive sealing
- Suitable for bar-coding
- 150 µl recommended working capacity (200 µl max capacity)



#### Ordering information\*

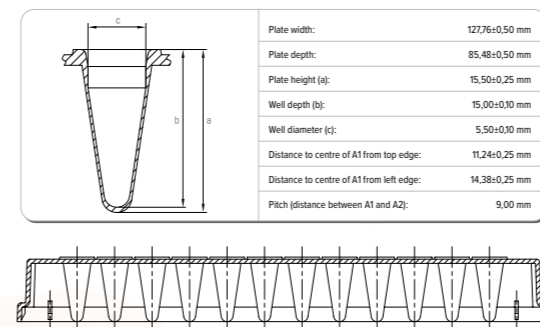
Cat. Num.	Description	Qty/Case
ECPCR0955	Primo® 96 well qPCR plate Semi-skirted for LC480, white wells	50

\* Please inquire for Roche Light Cycler® 480 Framestar® semi skirted plates

### Primo® 96 well Plate, Skirted, low profile

#### Features

- Compatible with most thermal cyclers and sequencers
- Clear wells, low profile
- Black grid reference for easy sample identification
- Cut-off corner at H1
- Raised well rims prevent cross contamination and facilitate sealing
- Suitable for cap sealing (ECPCR0751 and ECPCR0752), heat and adhesive sealing
- Suitable for bar-coding
- 150 µl recommended working capacity (200 µl max capacity)



#### Ordering information

Cat. Num.	Description	Qty/Case
ECPCR0740C	Primo® 96 well plate Skirted, Low Profile, clear wells	50

## PCR Tubes & Strips

Euroclone tubes, strips and cap strips are manufactured from virgin polypropylene in a Class 7 ISO certified cleanroom production facility. Strips are available in standard format and also with low profile tubes.

### Primo® PCR tubes

#### Features

- Flat and domed cap designs
- Suitable for all standard 0.2 ml block thermal cyclers
- Snap-shut cap
- 0.25 ml recommended working capacity (0.3 ml max capacity)



#### Ordering information

Cat. Num.	Description	Qty/Case
ECPCR02F	Primo® 0.2 ml Individual PCR tubes, flat caps	1000
ECPCR02D	Primo® 0.2 ml Individual PCR tubes, domed caps	1000

### Primo® Tube Strips

The tubes are individually numbered for sample recognition and available with or without caps.

#### Features

- Suitable for most standard thermal cyclers
- Can be cut into sections
- Available with domed or flat optical caps
- RNase, DNase, human genomic DNA free
- 250 µl recommended working capacity (300 µl max capacity)



ECPCR0208F



ECPCR0208D

#### Ordering information

Cat. Num.	Description	Qty/Case
ECPCR0208	Primo® 0.2 ml, 8 tubes/strip. Clear wells	125
ECPCR0208D	Primo® 0.2 ml, 8 tubes/strip. Clear wells + domed caps	125 + 125
ECPCR0208F	Primo® 0.2 ml, 8 tubes/strip. Clear wells + flat optical caps	125 + 125

### Primo® Low profile Tube Strips

Primo low-profile PCR tube strips are available in clear polypropylene for standard PCR techniques. For fluorescent detection, like qPCR, low profile PCR strips are available with white well tubes which give the highest sensitivity and the highest consistency as most of the fluorescence is reflected back to the detector.

#### Features

- Low profile strips
- Available with either clear or white tubes
- Supplied with flat optical caps
- RNase, DNase, human genomic DNA free
- 150 µl recommended working capacity (200 µl max capacity)



ECPCR0754



ECPCR0754C

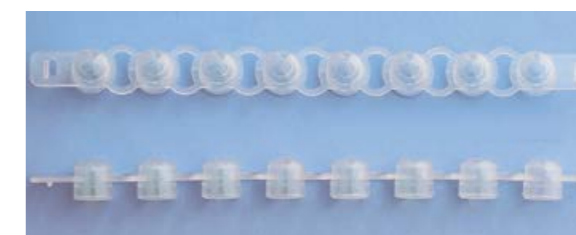
#### Ordering information

Cat. Num.	Description	Qty/Case
ECPCR0754C	Primo® Low profile 8 tubes/strip. Clear wells + flat optical caps	120 + 120
ECPCR0754	Primo® Low profile 8 tubes/strip. White wells + flat optical caps	120 + 120

### Primo® Flat and Domed PCR Cap Strips

#### Features

- Easy to apply
- Large end tabs for easy removal
- Labelled for orientation
- Flat caps are optically clear for fluorescence detection (e.g. qPCR)



ECPCR0752



ECPCR08F



ECPCR08D

#### Ordering information

Cat. Num.	Description	Qty/Case
ECPCR08D	Primo® strips of 8 domed caps ONLY for PCR tube strips	125
ECPCR08F	Primo® strips of 8 flat optical caps ONLY for PCR tube strips	125
ECPCR0752	Primo® strips of 8 domed caps for PCR plates	300
ECPCR0751	Primo® strips of 8 flat optical caps for PCR plates	300
ECPCR0788	Primo® strips of 12 flat optical caps for PCR plates	200



## Adhesive Sealing Films & Foils

Euroclone offers a wide range of adhesive sealing materials processed under strictly controlled environmental conditions and certified free from DNase, RNase and human genomic DNA.

### Primo® Adhesive PCR Seals

A strong polyester transparent adhesive seal recommended for PCR but it can also be used for qPCR and other optical applications. This seal enables a high seal integrity and efficiently prevents sample evaporation. The seal can be easily peeled from the plate.

#### Features

- Application: PCR and qPCR
- Peelable
- Adhesive free end tabs for ease of application and removal
- Seal integrity range: -20°C to 110°C
- Non-sterile



#### Ordering information

Cat. Num.	Description	Qty/Case	Dimensions
ECPCR0500	Primo® Transparent Adhesive PCR Seal	100 sheets	135 x 80 mm

### Primo® PCR Aluminium Foil Seal

This aluminium foil seal has a strong acrylic adhesive which guarantees a high integrity sealing. It is recommended for PCR and other high temperature applications. It can be pierced and peeled.

#### Features

- Application: PCR
- Peelable
- Pierceable
- Perforated end tabs for ease of application and removal
- Seal integrity range: -40°C to 120°C
- Non-sterile



#### Ordering information

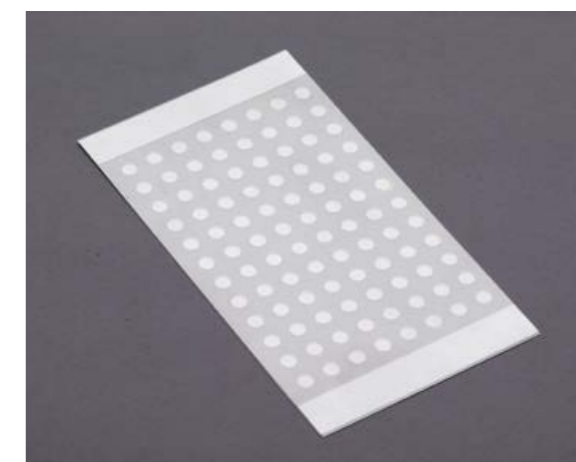
Cat. Num.	Description	Qty/Case	Dimensions
ECPCR0550	Primo® Aluminium Foil Adhesive Seal	100 sheets	130 x 80 mm

### Q-Stick Primo® qPCR Seal

This seal combines the strong sealing properties of PCR seal (ECPCR0500) with improved optical properties thanks to 96 adhesive-free windows. It is recommended for qPCR and other optical applications. It can be easily peeled thanks to adhesive free end tabs.

#### Features

- Application: qPCR and other optical applications
- Peelable
- Non-pierceable
- Adhesive free end tabs for ease of application and removal
- Seal integrity range: -20°C to 110°C
- Non-sterile



#### Ordering information

Cat. Num.	Description	Qty/Case	Dimensions
ECPCR0565	Q-Stick Primo® Adhesive qPCR Seal	100 sheets	133 x 76 mm

### Primo® qPCR Seal

This optically clear seal has been specifically developed for optical applications, especially qPCR. It is non-tacky to skin and gloves enabling ease of handling and application. This is a pressure activated seal: the polyester film has adhesive held within capsules on the underside and pressure must be applied to the top-side around the raised-well rims to activate the adhesive.

#### Features

- Application: qPCR
- No adhesive to come into contact with samples
- Non-sterile
- Non-pierceable
- Peelable
- Seal integrity range: -80°C to 110°C



#### Ordering information

Cat. Num.	Description	Qty/Case	Dimensions
ECPCR0560	Primo® qPCR Adhesive Seal	100 sheets	140 x 77 mm

## Primo® Peelable DMSO Resistant Adhesive Foil

This aluminium foil seal has a chemically resistant silicone adhesive layer to produce a seal with high levels of solvent resistance, including to Dimethyl Sulfoxide (DMSO).

### Features

- Peelable
- Non-pierceable
- Strong adhesive
- High solvent resistance
- Suitable for long term storage
- Free from DNase, RNase, and human genomic DNA
- Seal integrity range: -20°C to 80°C



### Ordering information

Cat. Num.	Description	Qty/Case	Dimensions
ECPCR0512	Primo® Peelable DMSO Resistant Adhesive Foil	100 sheets	122 x 80 mm

## Primo® Microplate Adhesive Transparent Seal

This transparent polyester-based film has a low strength adhesive and it is removable without residue on the plate; it is useful for short term storage and as a cover for applications such as centrifugation. End tabs allow for easy application and removal.

### Features

- Non-pierceable
- Peelable
- Seal integrity range: -20°C to 80°C
- Free from DNase, RNase, and human genomic DNA



### Ordering information

Cat. Num.	Description	Qty/Case	Dimensions
ECPCR0510	Primo® Microplate Adhesive Transparent Seal	100 sheets	130 x 80 mm

## Heat Sealing Films & Foils

Heat sealing is the gold standard method for plate sealing. It minimises sample loss and maximises sample security for PCR, qPCR, storage and other applications. The sealing performance of heat seals is superior to cap, mat and adhesive sealing with clear reductions in sample loss and cross contamination.

The optimized sealing performance allows use of smaller reaction volumes leading to reagent savings.

Euroclone offers a choice of heat seals in both roll and sheet format. Different seals can be chosen to optimize the use depending on plate material, desired permeability or resistance, ability to peel or pierce the seal material and visualisation through the material. All seals are certified free from nucleases and human genomic DNA contamination.

## Primo® Transparent seal I

This clear seal is recommended for PCR, qPCR and other optical applications.

### Features

- Application: PCR, qPCR, short term compound storage
- Non-pierceable
- Peelable
- Non-sterile
- Seal integrity range: -80°C to 80°C (110°C with pressurized heated PCR lid)



### Ordering information

Cat. Num.	Description	Qty/Case	Dimensions
ECPCR0541	Primo® Transparent Seal I	100 sheets	125 x 80 mm
ECPCR0540	Primo® Transparent Seal I	1 roll*	500 x 78 mm Approx 4200 seals
ECPCR0542	Primo® Transparent Seal I	1 roll**	350 x 115 mm Approx 4400 seals

\*Compatible with Thermo Fisher ALPS 300™/ALPS 3000™/KBiosystem Wasp™/KBioscience FlexiSeal and Cube

\*\*Compatible with Agilent (Velocity 11) Plateloc™

Note: Rolls are also available on 150 mm for REMP sealers. Please enquire.

## Primo® Transparent seal II

This clear seal is recommended for PCR, qPCR and other optical applications. This film forms a permanent bond to polypropylene plates that cannot be peeled, and it is very difficult to pierce. It has a very good solvent resistance.

### Features

- Application: PCR, qPCR, storage of hazardous material
- Non-pierceable
- Non-peelable
- Non-sterile
- Seal integrity range: -80°C to 110°C



### Ordering information

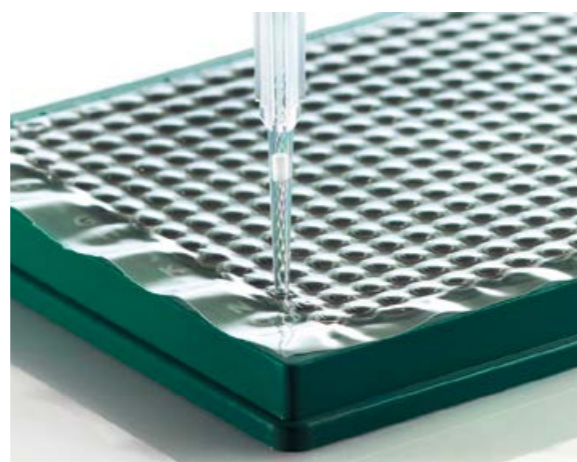
Cat. Num.	Description	Qty/Case	Dimensions
ECPCR0575	Primo® Transparent Seal II	100 sheets	125 x 78 mm

## Primo® Transparent Seal for ABI 3730 Sequencer

This thin polyester heat sealing film is easily pierceable with autosampler needles/ABI® 3730; it is suitable for PCR, qPCR and optical applications. It comes as perforated roll, for easy removal of sheets.

### Features

- Permanent seal
- Moderate solvent resistance
- Optically clear
- Free from DNase, RNase, human genomic DNA, and endotoxin/pyrogen
- Seal integrity range: -20°C to 80°C (or 110°C when used with pressurized heated PCR lid)



### Ordering information

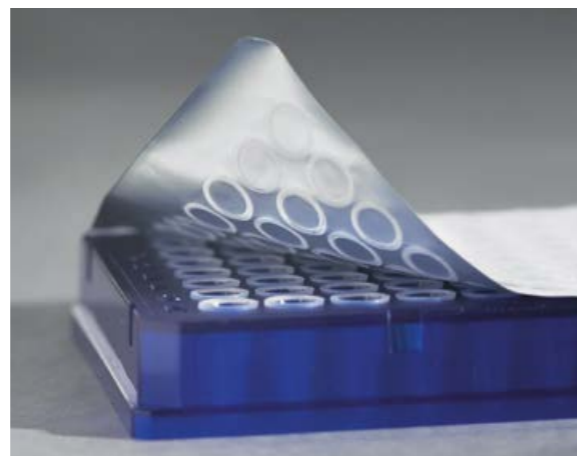
Cat. Num.	Description	Qty/Case	Dimensions
ECPCR0581	Primo® Transparent Seal for ABI 3730 Sequencer (heat sealing)	Approx 1000 sheets on perforated roll	125 x 78 mm

## Primo® Peelable seal

This a laminate peelable seal that can be easily removed from polypropylene plates but not from polyethylene plates.

### Features

- Application: PCR, Low temperature, compound storage, short term room temperature compound storage
- Non-Pierceable
- Peelable
- Non-sterile
- Seal integrity range: -80°C to 90°C (up to 110°C with pressurized heated PCR lid)



### Ordering information

Cat. Num.	Description	Qty/Case	Dimensions
ECPCR0521	Primo® Peelable Seal	100 sheets	125 x 78 mm
ECPCR0520	Primo® Peelable Seal	1 roll*	610 x 78 mm Approx 5000 seals
ECPCR0522	Primo® Peelable Seal	1 roll**	500 x 115 mm Approx 6250 seals

\*Compatible with Thermo Fisher ALPS 300™/ALPS 3000™/KBiosystem Wasp™/KBioscience FlexiSeal and Cube  
\*\*Compatible with Agilent (Velocity 11) Plateloc™

Note: Rolls are also available on 150 mm for REMP sealers. Please enquire.

## Primo® DMSO resistant Peelable seal

This a laminate peelable seal that can be easily removed from polypropylene plates but not from polyethylene plates.

### Features

- Application: PCR, Low and room temperature compound storage
- Resistant to 100% DMSO (at room temperature for 12 months with no deterioration of the seal quality)
- Non-pierceable
- Peelable
- Non-sterile
- Seal integrity range: -80°C to 40°C



### Ordering information

Cat. Num.	Description	Qty/Case	Dimensions
ECPCR0587	Primo® Peelable Seal DMSO resistant	100 sheets on perforated roll	125 x 78 mm
ECPCR0585	Primo® Peelable Seal DMSO resistant	1 roll*	500 x 78 mm Approx 4200 seals
ECPCR0586	Primo® Peelable Seal DMSO resistant	1 roll**	500 x 115 mm Approx 6200 seals

\*Compatible with Thermo Fisher ALPS 300™/ALPS 3000™/KBiosystem Wasp™/KBioscience FlexiSeal and Cube  
\*\*Compatible with Agilent (Velocity 11) Plateloc™

Note: Rolls are also available on 150 mm for REMP sealers. Please enquire.

## Primo® Pierceable Seal

This a foil-based seal that can be easily pierced from polypropylene or polystyrene plates. It has a very good solvent resistance. A blue colour print identifies the non-sealing surface for ease of application. This seal remains intact to very high temperatures.

### Features

- Application: PCR, Low and room temperature compound storage
- Resistant to 100% DMSO
- Pierceable
- Non-sterile
- Seal integrity range: -20°C to 120°C



### Ordering information

Cat. Num.	Description	Qty/Case	Dimensions
ECPCR0531	Primo® Pierceable Seal	100 sheets	125 x 78 mm
ECPCR0530	Primo® Pierceable Seal	1 roll*	610 x 78 mm Approx 5000 seals
ECPCR0532	Primo® Pierceable Seal	1 roll**	500 x 115 mm Approx 6200 seals

\*Compatible with Thermo Fisher ALPS 300™/ALPS 3000™/KBiosystem Wasp™/KBioscience FlexiSeal and Cube  
\*\*Compatible with Agilent (Velocity 11) Plateloc™

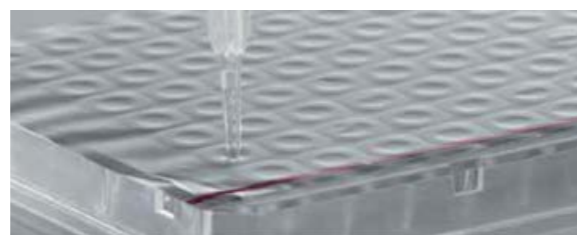
Note: Rolls are also available on 150 mm for REMP sealers. Please enquire.

## Primo® Foil Peelable and Pierceable seal

This aluminium foil seal seals both to polypropylene and polystyrene and can be pierced and peeled. It has a very good solvent resistance. A red colour print identifies the non-sealing surface for ease of application.

### Features

- Application: PCR, low and room temperature compound storage
- Resistant to 100% DMSO
- Pierceable
- Peelable
- Non-sterile
- Seal integrity range: -20°C to 110°C



### Ordering information

Cat. Num.	Description	Qty/Case	Dimensions
ECPCR0536	Primo® Foil Seal	100 sheets	125 x 78 mm
ECPCR0535	Primo® Foil Seal	1 roll*	610 x 78 mm Approx 5000 seals
ECPCR0537	Primo® Foil Seal	1 roll**	500 x 115 mm Approx 6200 seals

\*Compatible with Thermo Fisher ALPS 300™/ALPS 3000™/KBiosystem Wasp™/KBioscience FlexiSeal and Cube

\*\*Compatible with Agilent (Velocity 11) Plateloc™

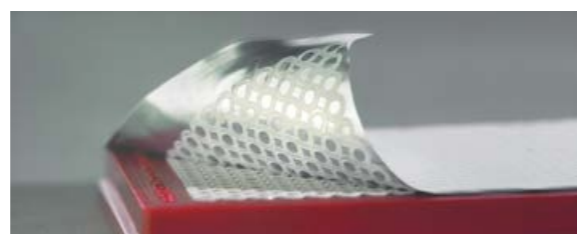
Note: Rolls are also available on 150 mm for REMF sealers. Please enquire.

## Primo® Thermal Bond Seal

This a very strong polypropylene laminate thermal seal that can be peeled. It has a very good solvent resistance.

### Features

- Application: PCR, low and room temperature compound storage
- Resistant to 100% DMSO
- Non-Pierceable
- Peelable
- Non-sterile
- Seal integrity range: -200°C to 110°C



### Ordering information

Cat. Num.	Description	Qty/Case	Dimensions
ECPCR0591	Primo® Thermal Bond Seal	100 sheets	125 x 78 mm
ECPCR0590	Primo® Thermal Bond Seal	1 roll*	500 x 78 mm Approx 4200 seals
ECPCR0592	Primo® Thermal Bond Seal	1 roll**	300 x 115 mm Approx 3700 seals

\*Compatible with Thermo Fisher ALPS 300™/ALPS 3000™/KBiosystem Wasp™/KBioscience FlexiSeal and Cube

\*\*NOT compatible with Agilent (Velocity 11) PlatelocR

## RELATED PRODUCTS

PCR .....	pag. 16
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RT-PCR .....	pag. 18
Agaroses .....	pag. 24 - 26
DNA ladders .....	pag. 27, 28

PRIMO<sup>®</sup>  
MECHANICAL  
PIPETTES AND  
PRIMO<sup>®</sup> TIPS

## Primo® mechanical pipettes

High quality devices to guarantee maximum precision and reproducibility of measurement.

- ✓ Fully autoclavable
- ✓ UV resistant
- ✓ Ultra low pipetting forces
- ✓ Easy recalibration system
- ✓ 3 years warranty



### Ordering information

	Code	Description	Volume [μl]	Accuracy [%]*	Precision [%]*
Single Channel	ECP10002	Single channel mechanical pipette Primo® 0.2 - 2 μl	0.2 1.0 Max 2.0	± 12.0 ± 2.7 ± 1.5	± 2.8 ± 0.6 ± 0.4
	ECP10010	Single channel mechanical pipette Primo® 0.5 - 10 μl	Min 0.5 5.0 Max 10.0	± 4.0 ± 1.0 ± 0.5	± 2.8 ± 0.6 ± 0.4
	ECP10020	Single channel mechanical pipette Primo® 2 - 20 μl	Min 2 10 Max 20	± 3.0 ± 1.0 ± 0.8	± 1.5 ± 0.5 ± 0.3
	ECP10100	Single channel mechanical pipette Primo® 10 - 100 μl	Min 10 50 Max 100	± 1.6 ± 0.8 ± 0.8	± 0.80 ± 0.24 ± 0.20
	ECP10200	Single channel mechanical pipette Primo® 20 - 200 μl	Min 20 100 Max 200	± 1.2 ± 0.8 ± 0.6	± 0.60 ± 0.25 ± 0.20
	ECP11000	Single channel mechanical pipette Primo® 100 - 1000 μl	Min 100 500 Max 1000	± 1.6 ± 0.7 ± 0.6	± 0.40 ± 0.20 ± 0.15
Multichannel	ECP80010 (+)	Mechanical pipette 8 channel Primo® 0.5 - 10 μl	Min 0.5 5 Max 10	±10.0 ±4.0 ±2.0	± 8.0 ± 2.0 ± 1.2
	ECP12010 (#)	Mechanical pipette 12 channel Primo® 0.5 - 10 μl	Min 0.5 5 Max 10	±10.0 ±4.0 ±2.0	± 8.0 ± 2.0 ± 1.2
	ECP80050 (+)	Mechanical pipette 8 channel Primo® 5 - 50 μl	Min 5 25 Max 50	±4.0 ±3.0 ±1.6	± 2.5 ± 1.2 ± 0.6
	ECP12050 (#)	Mechanical pipette 12 channel Primo® 5 - 50 μl	Min 5 25 Max 50	±4.0 ±3.0 ±1.6	± 2.5 ± 1.2 ± 0.6
	ECP80200 (+)	Mechanical pipette 8 channel Primo® 20 - 200 μl	Min 20 100 Max 200	±3.0 ±1.5 ±1.0	± 3.0 ± 1.5 ± 1.0
	ECP12200 (#)	Mechanical pipette 12 channel Primo® 20 - 200 μl	Min 20 100 Max 200	±3.0 ±1.5 ±1.0	± 3.0 ± 1.5 ± 1.0
	ECP80300 (+)	Mechanical pipette 8 channel Primo® 50 - 300 μl	Min 50 150 Max 300	±1.6 ±1.2 ±1.0	± 1.5 ± 1.0 ± 0.6
ECP12300 (#)	Mechanical pipette 12 channel Primo® 50 - 300 μl	Min 50 150 Max 300	±1.6 ±1.2 ±1.0	± 1.5 ± 1.0 ± 0.6	

(\* The accuracy and precision (repeatability) of liquid volume depend on the quality of tips used. The values for accuracy and precision given in the table below were obtained using Euroclone tips.

(+) 8 Channel

(#) 12 Channel

### Ordering information

Cat.	Description
ECP1KIT1	Kit Single Channel Primo® 1x (0.5 - 10 μl), 1x (10 - 100 μl), 1x (100 - 1000 μl)
ECP1KIT2	Kit Single Channel Primo® 1x (2 - 20 μl), 1x (20 - 200 μl), 1x (100 - 1000 μl)
ECP1KIT3	Kit Single Channel Primo® 2x (0.5 - 10 μl), 1x (10 - 100 μl)

### Primo® filter tips

- ✓ With high quality without cellulose additives, made to avoid cross - contamination
- ✓ Crystal clear quality
- ✓ Accurate graduation marks
- ✓ Low Retention properties
- ✓ Certified DNase, RNase, Human DNA, Pyrogen, PCR Inhibitors Free
- ✓ Sterile packaging
- ✓ Compatible with most pipettes available on the market



### Ordering information

Code	Description	Format
ECTD00010	Primo® filter tips 0.1 - 10 μl, Sterile, Low Retention, racked	10x96 pcs
ECTD00011	Primo® filter tips 0.1 - 10 μl, Long, Sterile, Low Retention, racked	10x96 pcs
ECTD00020	Primo® filter tips 2 - 20 μl, Sterile, Low Retention, racked	10x96 pcs
ECTD00100	Primo® filter tips 2 - 100 μl, Sterile, Low Retention, racked	10x96 pcs
ECTD00200	Primo® filter tips 2 - 200 μl, Sterile, Low Retention, racked	10x96 pcs
ECTD00300	Primo® filter tips 2 - 300 μl, Sterile, Low Retention, racked	10x96 pcs
ECTD01005	Primo® filter tips 100 - 1000 μl, Sterile, Low Retention, racked	8x96 pcs

### Primo® tips

- ✓ Without filter
- ✓ Not sterile
- ✓ Autoclavable
- ✓ Available in: Bulk, Rack and Refill Kit

### Ordering information

Code	Description	Format
<b>Bag Not Sterile</b>		
ECTD10010	Primo® tips 0.1 - 10 μl, clear, bag	1000 pcs
ECTD10011	Primo® tips 0.1 - 10 μl, long, clear, bag	1000 pcs
ECTD10200	Primo® tips 2 - 200 μl, clear, bag	1000 pcs
ECTD10300	Primo® tips 2 - 300 μl, clear, bag	1000 pcs
ECTD51000	Primo® tips 100 - 1000 μl, clear, bag	1000 pcs
<b>Rack Not Sterile</b>		
ECTD50010RN	Primo® tips 0.1 - 10 μl, Racked	10x96 pcs
ECTD50011RN	Primo® tips 0.1 - 10 μl, Long, Racked	10x96 pcs
ECTD50200RN	Primo® tips 2 - 200 μl, Clear, Racked	10x96 pcs
ECTD50300RN	Primo® tips 2 - 300 μl, Clear, Racked	10x96 pcs
ECTD51000RN	Primo® tips 100 - 1000 μl, Clear, Racked	8x96 pcs
<b>Refill Not Sterile</b>		
ECTD50010RL	Primo® tips 0.1 - 10 μl, Clear, Refill Kit	10x96 pcs
ECTD50011RL	Primo® tips 0.1 - 10 μl, Long, Clear, Refill Kit	10x96 pcs
ECTD50200RL	Primo® tips 2 - 200 μl, Clear, Refill Kit	10x96 pcs
ECTD51000RL	Primo® tips 100 - 1000 μl, Clear, Refill Kit	5x96 pcs

### Primo® rack for Refill Kit

Primo® reloading tips system is the perfect choice for users wishing to save on plastic waste and storage space and is extremely easy to use. Primo® empty tips racks are autoclavable and can be reused permanently.



#### Ordering information

Code	Description	Format
ECTD50010E	Primo® rack for 10 µl reload tips	50 pcs
ECTD50011E	Primo® rack for 10 µl long reload tips	50 pcs
ECTD50200E	Primo® rack for 200 µl reload tips	50 pcs
ECTD51000E	Primo® rack for 1000 µl reload tips	32 pcs

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# SERVICES



## Services

Our Services have been developed to support the everyday life of Researcher and to offer flexible solutions responding to customers' needs.

### Stockroom

A Stockroom\* is a storage place for our products created directly at the customer's site: all researchers have access to Euroclone's kits and reagents directly from their Institute (University or Hospital). The Researcher is free to take an item from the Stockroom whenever needed; every month the customer will get a summary of the pickings and the corresponding order will be processed.

The stocks are automatically reinstated by Euroclone based on customer's consumption.

The list of products available in stock is completely customizable and can be modified at any time.

### Virtual Stockroom

The Virtual Stockroom service\* allows customers to place orders online through a reserved portal; it is a special system which makes purchase simple and still compliant with MEPA requirements (Mercato Elettronico della Pubblica Amministrazione). Virtual StockRoom's customers not only have dedicated annual supply conditions and offers, but also can take advantage of temporary promotions, both for Euroclone branded products and for distributed product lines.

The ordering procedure is customizable according to the customer's needs.

*\*Stockroom and Virtual Stockroom are services available only in Italy.*

### Scheduled annual deliveries

The annual order with the scheduling of deliveries, on agreed dates, allows to avoid problems and delays and always be provided with the right supply of products.

### Technical Sales Specialist

Euroclone technical specialists are available providing a wide range of services to support all needs (both for Euroclone products and for distributed products) thus offering important direct support on the Italian territory.

- ✓ Pre and post sales consultancy
- ✓ Instrument installation
- ✓ Training using instruments
- ✓ Technical and practical demonstrations
- ✓ Technical assistance
- ✓ Troubleshooting
- ✓ Scientific support

### Technical Sales Assistant

The technical assistant takes care of all the post-sales operational needs.

- ✓ Provides technical information
- ✓ Handles requests with the supplier technical service
- ✓ Technical support on the consumable

Contact: [tsa@euroclone.it](mailto:tsa@euroclone.it) / 800-315911

### Quality

The medical devices we market and the in vitro diagnostic devices used in cytogenetics comply with European regulations 2017/745 e 2017/746. Euroclone sells its own brand products in Europe and in non-European countries in compliance with international regulations, including the DUAL USE regulation.

Euroclone is a supplier of companies in the Biotech area – Pharma that work in GMP, and guarantees products FFM (For Further Manufacture) in compliance with specific Quality Technical Agreement defined with individual customers.

### Certifications

**ISO 9001, ISO 13485 e ISO 14001.**

**ISO 9001 and ISO 13485** certify that our company, from the point of view of design, development, technical assistance and marketing for products for life sciences, medical devices and in vitro diagnostic devices, complies with the regulations currently in force.

**ISO 14001** certifies that Euroclone works in full respect of the environment and its actions are characterized by a strong ecological footprint.

# TECHNICAL APPENDIX

# Technical Appendix

## Plate compatibility table

Standard Thermal Cyclers										qPCR Cyclers										Sequencers							
Model	ABI Life Technologies/ Thermo Fisher Scientific	Agilent/Stratagene	Analytik Jena/Biometra	Bior Technologies	BioRad	BioRad M.J. Research	Corbett Research	Eppendorf	Euroclone Bior	Euroclone PeqLab	PEQLAB/VWR	Sensquest	Takara	Technique	ABI Life Technologies/ Thermo Fisher Scientific	Agilent/Stratagene	Analytik Jena/Biometra	BioRad	BioRad M.J. Research	Corbett Research	Eppendorf	Roche	Technique	ABI Life Technologies	GE Healthcare/Amerham		
Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well		
96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96		
384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384		
<b>FrameStar® Plates</b>																											
ECPCR0384C 384 well		x	x						x					x	x	x											
ECPCR0960C 96 well unskirted			x		x																						
ECPCR0770C 96 well semi-skirted	x	x																									
ECPCR0730C 96 well semi-skirted with upstand	x	x																									
ECPCR0910C 96 well semiskirted		x																									
<b>Standard Plates</b>																											
ECPCR0750C 96 well unskirted	x	x		x	x																						
ECPCR0760 96 well semiskirted	x	x																									
ECPCR0740C 96 well skirted				x																							
ECPCR0955 96 well semiskirted for LC Roche. White wells																											
<b>Tubes and Strips</b>																											
ECPCR0208D/ ECPCR0208F 8 tube-strips	x	x	x	x		x	x	x	x	x	x	x	x	x		x	x	x									
ECPCR0754C/ ECPCR0754 8 tube-strips low profile					x																						

## Adhesive Seal Films and Foils

Description	Primo® Adhesive PCR seal	Primo® PCR Aluminium foil seal	Q-Stick Primo® qPCR Seal	Primo® qPCR seal	Primo® Peelable DMSO Resistant Adhesive Foil	Primo® microplate seal
Cat.	ECPCR0500	ECPCR0550	ECPCR0565	ECPCR0560	ECPCR0512	ECPCR0510
Application	PCR, qPCR	PCR & sample storage	qPCR, fluorescence (96-well microplates only)	qPCR & other fluorescent applications	Microplate sealing containing solvents incl. DMSO	Aqueous sample storage
Special Properties	Good optical clarity	Irregular tearing when pierced prevents formation of vacuum	Discreet optical windows for 96-well plates	Good optical clarity	High solvent resistance	Medium strength transparent seal
Min Temp	-20°C	-40°C	-20°C	-80°C	-20°C	-20°C
Max Temp	110°C	120°C	110°C	110°C	80°C	80°C
Sterile	No	No	No	No	No	No
Pierceable	No	Yes	No	No	No	No
Peelable	Yes	Yes	Yes	Yes	Yes	Yes
RNase/DNase free	Yes	Yes	Yes	Yes	Yes	Yes
Dimensions	135 x 80 mm	130 x 80 mm	133 x 76 mm	140 x 77 mm	122 x 80 mm	130 x 80 mm

## Heat Sealing Films & Foils

Description	Primo® Transparent Seal I	Primo® Transparent Seal II	Primo® Transparent Seal For ABI 3730 Sequencer	Primo® Peelable seal	Primo® DMSO resistant Peelable seal	Primo® Pierceable seal	Primo® Foil Peelable and Pierceable seal	Primo® Thermal Bond Seal
Roll 78 mm width (1) (length)	ECPCR0540 (500 mm)	-	-	ECPCR0520 (610 mm)	ECPCR0585 (500 mm)	ECPCR0530 (610 mm)	ECPCR0535 (610 mm)	ECPCR0590 (500 mm)
Roll 115 mm width (2) (length)	ECPCR0542 (350 mm)	-	-	ECPCR0522 (500 mm)	ECPCR0586 (500 mm)	ECPCR0532 (500 mm)	ECPCR0537 (500 mm)	ECPCR0592 (300 mm)
Sheets (dimensions)	ECPCR0541 (125 x 80 mm)	ECPCR0575 (125 x 80 mm)	ECPCR0581 (+) (125 x 78 mm)	ECPCR0521 (125 x 78 mm)	ECPCR0587 (#) (125 x 78 mm)	ECPCR0531 (125 x 78 mm)	ECPCR0536 (125 x 78 mm)	ECPCR0591 (125 x 78 mm)
Application	qPCR, short term compound storage	PCR (esp. water bath cyclers), qPCR, Storage & disposal of hazardous materials	qPCR and for use with ABI 3730 Sequencer	Low temperature, compound storage, short term room temperature compound storage (<5 days), PCR	Low/room temperature compound storage with DMSO & other organic solvents	PCR, compound storage, sample shipping	Low temperature compound storage, short-term room temperature compound storage, PCR	Low temperature transportation & storage. PCR (esp. water bath cyclers), Storage of organic solvents, acids & alkalines
Special Properties	Good optical clarity. Moderate solvent resistance	Good optical clarity & resistant to DMSO	Good optical clarity, some solvent resistance	Can be peeled directly from -80°C freezer. Moderate resistance to solvents at room temperature	Can be peeled directly from -80°C freezer. High resistance to solvents even at elevated temperatures	Easily pierceable. Resistant to DMSO. Re-sealable with another Pierce Seal. Color print identifies non-sealing surface	Re-sealable with another Foil Seal. Colour print identifies non-sealing surface	Very strong seal with PP. Resistant to DMSO and other solvents
Min Temp	-80°C	-80°C	-20°C	-80°C	-80°C	-20°C	-20°C	-200°C
Max Temp	80°C (or 110°C with pressurised heated PCR lid)	110°C	80°C (or 110°C with pressurised heated PCR lid)	90°C (or 110°C with pressurised heated PCR lid)	40°C	120°C	110°C	110°C
Sterile	No (*)	No (*)	No (*)	No (*)	No (*)	No (*)	No (*)	No (*)
Pierceable	No	No	Yes	No	No	Yes	Yes	No
Peelable	Yes	No	No	Yes	Yes	No	Yes	Yes
RNase/DNase free	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Material	Laminate	Polymer	Polymer	Laminate	Laminate	Foil	Foil	Laminate
Seals to	PP, PE, PS, PC, COC	PP	PP, PE, PS, COC	PP, COC	PP, PE, COC	PP, PS	PP, PS	PP

\* Available as sterile on request

(+) 1000 sheets supplied on a perforated roll

(#) 100 sheets supplied on a perforated roll













(1) Compatible with Thermo Fisher ALPSs 300™/ALPS3000™/KBiosystems Chameleon™/KBioscience FlexiSeal & Remp/Tecan Plate Sealer

(2) Compatible with Agilent (Velocity 11) PlateLoc®

PP: Polypropylene/PS: Polystyrene/COC: Cyclic Olefin Copolymer/ PE: Polythene/PC: Polycarbonate

NB: Rolls are also available on 150 mm core for Remp/Tecan sealers. Please enquire.

Compatibility chart: for tips compatibility with other pipettes brand

												
	ECTD10010 ECTD50010RN ECTD50010RL	ECTD00010	ECTD50011RN ECTD50011RL ECTD10011	ECTD00011	ECTD00020	ECTD00100	ECTD50200RN ECTD50200RL ECTD10200	ECTD00200	ECTD10300 ECTD50300RN	ECTD00300	ECTD51000RN ECTD51000RL ECTD51000	ECTD01005
<b>Primo® mechanical pipettes</b>	0.1 - 2 µl 0.5 - 10 µl	0.1 - 2 µl 0.5 - 10 µl	0.2 - 2 µl 1 - 10 µl	0.1 - 2 µl 0.5 - 10 µl	2 - 20 µl	2 - 20 µl 10 - 100 µl	2 - 20 µl 10 - 100 µl 20 - 200 µl	2 - 20 µl 10 - 100 µl 20 - 200 µl	2 - 20 µl 10 - 100 µl 20 - 200 µl	2 - 20 µl 10 - 100 µl 20 - 200 µl	100 - 1000 µl	100 - 1000 µl
<b>CAPP bravo, ecopipette and CAPPaero single channel pipette</b>	0.2 - 2 µl 0.5 - 10 µl	0.2 - 2 µl 0.5 - 10 µl	0.2 - 2 µl 0.5 - 10 µl	0.2 - 2 µl 0.5 - 10 µl	-	5 - 50 µl 10 - 100 µl	2 - 20 µl 5 - 50 µl 10 - 100 µl 20 - 200 µl	2 - 20 µl 5 - 50 µl 10 - 100 µl 20 - 200 µl	2 - 20 µl 5 - 50 µl 10 - 100 µl 20 - 200 µl	2 - 20 µl 5 - 50 µl 10 - 100 µl 20 - 200 µl	100 - 1000 µl	100 - 1200 µl
<b>CAPP electronic pipettes and CAPPaero multichannel</b>	0.5 - 10 µl 2 - 20 µl	0.5 - 10 µl 2 - 20 µl	0.5 - 10 µl 2 - 20 µl	0.5 - 10 µl 2 - 20 µl	2 - 20 µl	5 - 50 µl 10 - 100 µl	5 - 50 µl 10 - 100 µl 20 - 200 µl	5 - 50 µl 10 - 100 µl 20 - 200 µl	5 - 50 µl 10 - 100 µl 20 - 200 µl 30 - 300 µl	5 - 50 µl 10 - 100 µl 20 - 200 µl 30 - 300 µl	100 - 1200 µl	100 - 1000 µl
<b>Biohit eline, mline, Proline Plus</b>	0.1 - 3 µl 0.5 - 10 µl	0.1 - 3 µl 0.5 - 10 µl	0.1 - 3 µl 0.5 - 10 µl	0.1 - 3 µl 0.5 - 10 µl	2 - 20 µl	2 - 20 µl 10 - 100 µl	2 - 20 µl 10 - 100 µl 20 - 200 µl	10 - 100 µl 20 - 200 µl	2 - 20 µl 10 - 100 µl 20 - 200 µl	2 - 20 µl 10 - 100 µl 20 - 200 µl	100 - 1000 µl	100 - 1000 µl
<b>Brand, Transferpette S, Transferpette S Electronic</b>	0.5 - 10 µl	0.5 - 10 µl	0.5 - 10 µl	0.5 - 10 µl	2 - 20 µl	-	2 - 20 µl 10 - 100 µl 20 - 200 µl	20 - 200 µl	20 - 200 µl 15 - 300 µl	20 - 200 µl 15 - 300 µl	100 - 1000 µl	100 - 1000 µl
<b>Eppendorf reference, Research Plus</b>	0.1 - 2.5 µl 0.5 - 10 µl	0.5 - 10 µl	0.1 - 2.5 µl 0.5 - 10 µl	0.1 - 2.5 µl 0.5 - 10 µl	2 - 20 µl	2 - 20 µl 10 - 100 µl	2 - 20 µl 10 - 100 µl 20 - 200 µl	20 - 200 µl	10 - 100 µl 20 - 200 µl 30 - 300 µl	10 - 100 µl 20 - 200 µl 30 - 300 µl	100 - 1000 µl	100 - 1000 µl
<b>Finnpipette</b>	0.5 - 10 µl	0.5 - 10 µl	0.5 - 10 µl	0.5 - 10 µl	2 - 20 µl	5 - 50 µl	2 - 20 µl 5 - 50 µl 20 - 200 µl	5 - 50 µl 20 - 200 µl	5 - 50 µl 20 - 200 µl 30 - 300 µl	5 - 50 µl 20 - 200 µl 30 - 300 µl	100 - 1000 µl 200 - 1000 µl	100 - 1000 µl 200 - 1000 µl
<b>Gilson pipetman</b>	0.2 - 2 µl 1 - 10 µl	0.2 - 2 µl 1 - 10 µl	0.2 - 2 µl 1 - 10 µl	0.2 - 2 µl 1 - 10 µl	2 - 20 µl	2 - 20 µl 10 - 100 µl	2 - 20 µl 20 - 100 µl 50 - 200 µl	2 - 20 µl 10 - 100 µl 20 - 200 µl	2 - 20 µl 20 - 100 µl 50 - 200 µl	2 - 20 µl 20 - 100 µl 50 - 200 µl	100 - 1000 µl 200 - 1000 µl	100 - 1000 µl 200 - 1000 µl
<b>Rainin classic, universal shaft (non lts)</b>	0.1 - 2 µl 0.5 - 10 µl	0.1 - 2 µl 0.5 - 10 µl	0.2 - 2 µl 1 - 10 µl	0.1 - 2 µl 0.5 - 10 µl	2 - 20 µl	2 - 20 µl 10 - 100 µl	2 - 20 µl 10 - 100 µl 20 - 200 µl	2 - 20 µl 10 - 100 µl 20 - 200 µl	2 - 20 µl 10 - 100 µl 20 - 200 µl	2 - 20 µl 10 - 100 µl 20 - 200 µl	100 - 1000 µl	100 - 1000 µl
<b>Vwr, labnet</b>	0.1 - 2 µl 0.5 - 10 µl	0.1 - 2 µl 0.5 - 10 µl	0.2 - 2 µl 1 - 10 µl	0.1 - 2 µl 0.5 - 10 µl	2 - 20 µl	2 - 20 µl 10 - 100 µl	2 - 20 µl 10 - 100 µl 20 - 200 µl	2 - 20 µl 10 - 100 µl 20 - 200 µl	2 - 20 µl 10 - 100 µl 20 - 200 µl	2 - 20 µl 10 - 100 µl 20 - 200 µl	100 - 1000 µl	100 - 1000 µl

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# Notes

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