SMART
Gene Analysis

For Life Science Research

- Purification kits
- Extraction kit
- Electrophoresis devices and consumables
- Transformation products
- Custom genes
We are committed to providing you excellence in genomics. In addition to our comprehensive offer in Oligonucleotides, PCR and qPCR, we would like to offer you additional high-quality lab products and services.

The SMART Gene analysis range contains everything you need to successfully achieve your nucleic acid research.

**RELIABLE GENOMIC SOLUTIONS**

- Efficient Kits for nucleic acids extraction and purification
- Smart Electrophoresis Devices
- Ready-to-use standards
- Custom Genes Service
A range of products and services for accurate and fast gene cloning, purification and analysis.

**ELECTROPHORESIS** p.8

Devices and consumables for accurate DNA analysis on agarose gels

**NUCLEIC ACIDS EXTRACTION AND PURIFICATION** p.6

Smart kits for fast and efficient DNA recovery from various sample types

**TRANSFORMATION PRODUCTS** p.14

Ready-to-use competent bacteria and universal electroporation cuvettes

**GENE SYNTHESIS** p.18

100% guaranteed optimised de novo sequence up to 50000 bp

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**SMART Gene Analysis**

- Purification and Extraction
  - DNA
- Electrophoresis
- Transformation products
- Custom genes

**Annexes**

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- p18 Trademarks and labels
- p19 Related products

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[www.eurogentec.com](http://www.eurogentec.com)
SMART kits
For nucleic acid purification and extraction

The Smart kits are a series of easy to use kits intended for the quick and efficient mini-purification or extraction of nucleic acids from various sample types. They have been designed to efficiently recover reliable material that can be used immediately in all your routine molecular biology applications.

qDNA EXTRACTION KIT

The SmartExtract Kit will allow you to perform genomic DNA extraction from almost any crude sample (e.g. blood & human tissues, plant seeds & leaves...) in only 1 tube in 12 minutes.

Amplification of extracted DNA from various sample types qPCR reactions were performed using different quantities of extracted DNA as template and a Takyon™ qPCR MasterMix (Eurogentec).

DNA PURIFICATION KITS

SMARTPURE Plasmid
The SmartPure Plasmid Kit provides high quality purified plasmid DNA. The plasmid isolated from bacterial cell culture can be used directly in any downstream molecular biology applications.

| Working time | +/- 20 min |
| Typical yield | up to 45 µg plasmid DNA / 1 mL culture* |
| *Depending on the plasmid copy number and the culture OD |

SMARTPURE PCR
The SmartPure PCR Kit is perfectly suited to efficiently separate DNA fragments from PCR or enzymatic reaction mixtures without using toxic phenol and chloroform solvents.

| Working time | +/- 6 min |
| DNA size range | from 60 bp to 10 kbp |
| Elution Recovery | ≥ 99% |

SMARTPURE Gel
The SmartPure Gel Kit is convenient for the extraction and purification of DNA fragments from up to 3% standard (or high/low melting) agarose gel in either TAE or TBE buffer.

| Working time | +/- 16 min |
| DNA size range | from 60 bp to 23 kbp |
| Elution Recovery | ≥ 99% |

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Description</th>
<th>Cat. #</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>SmartPure Plasmid</td>
<td>SK-PLPU-100</td>
<td>100 preps</td>
</tr>
<tr>
<td>SmartPure PCR</td>
<td>SK-PCPU-100</td>
<td>100 preps</td>
</tr>
<tr>
<td>SmartPure Gel</td>
<td>SK-GEPU-100</td>
<td>100 preps</td>
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GOOD TO KNOW

Stable at Room Temperature
Electrophoresis
An absolute must for gene analysis
Eurogentec provides a range of high quality products and smart devices to visualise your nucleic acid samples easier, faster and with a better accuracy.

Electrophoresis Devices

Mupid®-One

The Mupid®-One is a CE labelled electrophoresis system for agarose gels. The electrophoresis tank is directly connected to the Smart Power Supply.

**Features**

- Multi-function Power supply
  - 7 conventional voltages: (135V, 100V, 50V, 25V and 70V, 35V and 18V).
  - Timer function: from 1 to 99 minutes with additional voltage alarm tone.
  - Memory: the last voltage and timer values are recorded.
  - Current intensity regulation: The Smart Power supply to be washed. The buffer can be drained away from the tank easily.
- Multi-channel pipette compatible
  - Up to 104 samples can be loaded on the same gel.
- Safety Interlock System
  - The current is not delivered without the lid or the SmartViewer.
- Heat resistant
  - Gel solution up to 100°C can be poured into the gel tray.

**Package Content**

- Numerous accessories included
  - Electrophoresis Cell
  - Safety Lid
  - Smart Power Supply
  - 2 small gel trays
  - 1 large gel tray
  - 4 reversible combs (13 - 26 wells)
  - Gel casting stand

**Features**

- Time saving
  - No need to wait the end of the migration to visualise your DNA.
- Electrophoresis Control
  - Simply push the button to check the status of the gel migration.
- Compatibility
  - The blue LEDs of the SmartViewer can be used with the common nucleic acid dyes.
- High sensitivity
  - Detect as low as 2 ng.

**SmartViewer**

The SmartViewer is an innovative LED illuminator for real-time tracking of your nucleic acid samples on agarose gel. It has been especially designed to be placed on the Mupid® gel electrophoresis device.

**Specifications**

- Size: 166x70x51 mm
- Window size: 150x60 mm
- Filter type: Amber filter
- Filter surface: Anti-Fog treatment
- PSA surface: Anti-moisture treatment
- LED lifetime: 50000 hours
- LED wavelength: 470 nm

**Ordering Information**

**Product**

<table>
<thead>
<tr>
<th>Product Description</th>
<th>Quantity</th>
<th>Cat#</th>
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<tr>
<td>Mupid®-One Electrophoresis System (EU cable)</td>
<td>1</td>
<td>MU-0041-</td>
</tr>
<tr>
<td>Mupid®-One Electrophoresis System (UK cable)</td>
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<td>MU-0041+</td>
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<td>Spare Parts</td>
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<td></td>
</tr>
<tr>
<td>Gel Casting Stand for Mupid®-One</td>
<td>1</td>
<td>MU-0041-SD</td>
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<tr>
<td>Gel Maker Set for Mupid®-One</td>
<td>2</td>
<td>MU-0041-MS</td>
</tr>
<tr>
<td>Small Tray for Mupid®-One</td>
<td>4</td>
<td>MU-0041-ST</td>
</tr>
<tr>
<td>Standard Comb for Mupid®-One</td>
<td>2</td>
<td>MU-0041-SC</td>
</tr>
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</table>
**Smart Illuminator**

The Smart Illuminator is a compact and thin LED Illuminator for nucleic acid fragments detection on stained gels.

### Features

- **High sensitivity** detect as low as 0.5 ng
- **No risk of DNA decay**
  - The blue LEDs of the Smart Illuminator are less damaging than the UV lamps that are well-known to decay DNA.
- **Compatibility**
  - The strong blue LEDs of the Smart Illuminator can be used with the common nucleic acid dyes (e.g., EtBr, SYBR® Safe, SYBR Gold, SYBR® Green I & II, SYPRO® Ruby, SYPRO® Orange, Coomassie Flair™ Orange stains, GelGreen, GelRed and Luminco™ Protein Gel Stain).
- **Compact**
  - The Smart Illuminator is the thinnest illuminator in the world with only 30 mm in height.
- **User Friendly**
  - Easy to view and cut gel. No need to wear amber glasses.

### Specifications

- **Size**: 210 x 210 x 30 (mm)
- **Viewing surface**: 120 x 70 (mm)
- **LED Wavelength**: 470 nm
- **Amber filter**: amber filter shield with metal frame
- **LED arrangements**: matrix for two-side illumination
- **LED lifetime**: 50000 hours
- **Compatible with mini gel size (mm)**: 110 x 60 & 55 x 60
- **Weight**: 2.3 Kg

### Ordering Information

**Product** | **Quantity** | **Cat. #**
--- | --- | ---
Smart Illuminator | 1 device | MU-0201

**Also Available**

- **Bromophenol Blue loading dye (10 mL)** - BioTracker 6X - Catalogue # EP-5010-10
- **AgaTabs** - Molecular Biology Grade agarose provided as a pre-weight tablet format. Easy-to-use it is particularly recommended for RNA manipulations by reducing the risk of nuclease contamination during weighing.

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**Agarose**

Eurogentec provides 100% pure agarose with no detectable DNase or RNase activity. Depending on your samples and applications, you will preferably use one of our three agarose formulation.

- **High Quality Molecular Biology Grade Agarose** ideal for all your DNA/RNA analysis of DNA or RNA by gel electrophoresis and blotting.
- **Small Fragment Agarose** is a Molecular Biology grade agarose suited for the separation of small nucleic acid fragments below 1000 base pairs.
- **AgaTabs** is a Molecular Biology Grade agarose provided as a pre-weight tablet format. Easy-to-use it is particularly recommended for RNA manipulations by reducing the risk of nuclease contamination during weighing.

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**Molecular Weight Ladders**

In order to select the right molecular weight standard it is necessary for one to consider the size of the sample to analyse and the detection method used. Here you will find a series of stained or fluorescent labelled MW Markers that will suit your needs.
**SmartLadders**

The SmartLadders are ready-to-use molecular weight markers for fast and accurate DNA size determination and quantification. The SmartLadders contain bromophenol blue and xylene cyanol.

<table>
<thead>
<tr>
<th>SmartLadder</th>
<th>Quantity</th>
<th>Cat. No.</th>
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<tbody>
<tr>
<td>Low</td>
<td>500</td>
<td>MW-0200-L</td>
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<tr>
<td>Low EXT</td>
<td>400</td>
<td>MW-0200-04</td>
</tr>
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</table>

3.0; 4.0; 5.0; 7.0 and 10 kilo bases (KB).

<table>
<thead>
<tr>
<th>Band size (bp)</th>
<th>Concentration (ng/band)</th>
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<tbody>
<tr>
<td>50</td>
<td>500 ng</td>
</tr>
<tr>
<td>70</td>
<td>700 ng</td>
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<tr>
<td>100</td>
<td>1000 ng</td>
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<td>200</td>
<td>2000 ng</td>
</tr>
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<tr>
<td>500</td>
<td>5000 ng</td>
</tr>
<tr>
<td>1000</td>
<td>10000 ng</td>
</tr>
</tbody>
</table>

**BioMarker™**

BioMarker™ is a range of optimal ladders for reading DNA fragments ranging from 50 to 10000 bp. They are stable at room temperature and are supplied dephosphorylated in order to allow labelling with polydeoxyinosine kinase onto free 5’-termini. Biotin and Rhodamine labelled biomarkers are also available.

<table>
<thead>
<tr>
<th>BioMarker™ Low</th>
<th>Origin</th>
<th>Band size (bp)</th>
<th>Concentration (ng/band)</th>
</tr>
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<tbody>
<tr>
<td>50</td>
<td>500 ng</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>700 ng</td>
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<td>1000 ng</td>
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<td></td>
</tr>
<tr>
<td>1000</td>
<td>10000 ng</td>
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</tr>
</tbody>
</table>

**MapMarker®**

MapMarker® are high-quality fluorescent labelled DNA fragments for accurate DNA sizing determination in gel electrophoresis or capillary-based systems. The MapMarker® profile is made of regular spaced bands with a concentration of 8 fmoles/band/µL. They may be used under either denaturing or non-denaturing conditions and are compatible with all fluorescent-based separation instruments systems. They are available with the most commonly used fluorescent dyes.

<table>
<thead>
<tr>
<th>MapMarker® 400</th>
<th>Description</th>
<th>Concentration (ng/band)</th>
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<tbody>
<tr>
<td>50</td>
<td>500 ng</td>
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</tr>
<tr>
<td>70</td>
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<td>150</td>
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<td>200</td>
<td>2000 ng</td>
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<td>500</td>
<td>5000 ng</td>
<td></td>
</tr>
<tr>
<td>1000</td>
<td>10000 ng</td>
<td></td>
</tr>
</tbody>
</table>

**MapMarker® 500**

MapMarker®500 contains 16 single stranded DNA fragments ranging in size from 30 to 500 base pairs and labelled with a single fluorophore. The exact fragment sizes are: 35, 50, 75, 100, 139, 150, 160, 200, 250, 300, 340, 350, 400, 450, 475, 500, 550, 600, 700, 750, 800, 850, 900, 950 and 1000 base pairs.

**MapMarker® 1000**

MapMarker®1000 contains 23 single stranded DNA fragments ranging in size from 50 to 1000 base pairs: 50, 75, 100, 125, 150, 200, 250, 300, 350, 400, 450, 475, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000, 1100, 1200, 1390, 1400, and 1500 base pairs.

**MapMarker® 1500**

MapMarker®1500 contains 28 discrete DNA fragments ranging in size from 50 to 1500 base pairs labelled with X-Rhodamine: 50, 75, 100, 125, 150, 200, 250, 300, 350, 400, 450, 475, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000, 1100, 1200, 1390, 1400, and 1500 base pairs.
Transformation products

Clone and express

SAFE
CONVENIENT
EFFICIENT

The box that holds the 96 transformation tubes can be used as a rack during the transformation procedure. Remove the bottom panel of the box to thaw the cells on ice or to immerse the tubes in a water bath (during heat shock).

GOOD TO KNOW

Shipped with SOC medium

ELECTROPORATION CUVERTES

Eurogentec electroporation cuvettes are moulded in high quality polycarbonate, with extremely precise and uniform electrode gaps.

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
<th>Cat.#</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mm black cap</td>
<td>50 pcs</td>
<td>CE-0001-50</td>
</tr>
<tr>
<td>2 mm yellow cap with big electrode</td>
<td>50 pcs</td>
<td>CE-0002-50</td>
</tr>
<tr>
<td>2 mm yellow cap with small electrode (for older Bio-Rad electroporator)</td>
<td>50 pcs</td>
<td>CE-0002-50S</td>
</tr>
<tr>
<td>4 mm blue cap</td>
<td>50 pcs</td>
<td>CE-0004-50</td>
</tr>
</tbody>
</table>

- Compatible with most existing electroporation systems.
- 3 sizes available: 1 mm (black cap), 2 mm (yellow cap) and 4 mm (blue cap).
- Tapered bottom for easier sample handling (1 & 2 mm).
- As low as 10 μl of electrocompetent cells (for 1 & 2 mm).
- Lids with a double internal seal ensuring perfect sterility and absence of aerosols.
- Individually packaged and sterilised by gamma irradiation.
- Electrically and biologically controlled.

CHEMICALLY COMPETENT BACTERIA

DG1 chemically competent bacteria

DG1 GENOTYPE: mcrA Δmcr-hsdRMS-mcrBC, modification- restriction-
BL21(DE3) Δλpir recA1 ara D139 (ara-leu)7697 galU galK rpsL endA1 nupG.

The DG1 competent bacteria transformation efficiency is higher than 10^9 cfu/μg of DNA. Therefore they are convenient for cloning, plasmid preparation and library construction. The DG1 cells are endonuclease and recombination minus. These bacteria allow lacZalpha complementation for blue/white screening.

DG1 bacteria are delivered in 1.2 mL individual test tubes containing 50 μL of competent bacteria.
Gene synthesis

**WHY CHOOSE CUSTOM GENES?**

De novo synthesis of DNA bypasses any hindrances encountered with classical PCR amplified nucleic acid fragments. Custom genes considerably reduce time spent on oligonucleotides design, gene cloning and sequencing. Moreover, synthetic genes considerably improve the protein expression yield and quality. They guarantee the absence of undesired mutation or single nucleotide polymorphism (SNP), which may influence downstream applications.

**BENEFITS**

- From simple gene to highly complex sequence
- Up to 50 kbp
- Gene Optimisation
- 100% Guaranteed sequence
- Fast turnaround time

**HOW TO START**

To start discussing your own project, please contact us at gene@eurogentec.com or fill the custom gene form online: www.eurogentec.com

**GENE OPTIMISATION**

- TATA boxes
- SD sequence
- Terminal signal
- GC content
- Cryptic splicing sites
- Negative CpG islands
- Codon usage bias
- mRNA secondary structure
- Premature PolyA sites
- RNA instability motif

**THE VECTOR**

- Free cloning into pUC57 (by default)
- Your own vector or other vectors such as pcDNA and pET types are available on request

**TRUSTED QUALITY**

- 100% sequence of your Custom Gene(s)
- Size of the inserted fragment
- Flanking regions of the chosen vector
- DNA quality and quantity

**DELIVERY**

- Custom Gene(s) ≥ 2000 bp delivered within 15-20 WDays
- 4 μg of lyophilised plasmid DNA carrying your Custom Gene(s)
- A printout of the sequence alignment confirmed by sequencing
- A plasmid map to locate the flanking regions and restriction sites
- General information and instructions to directly use your Custom Gene(s)
- Quality Assurance Certificate

**APPLICATIONS**

- Gene variants and SNPs
- RNA optimisation
- Codon optimisation
- Synthetic Biology
- cDNA design
- Microarray-ready cDNA
- Recombinant antibodies
- DNA vaccines and vectors

* Option available for genes ≤ 800 bp without complex sequences. More information on gene@eurogentec.com
**HOW TO ORDER**

**ON LINE**

FAST AND SIMPLE

1. Register to or log in www.eurogentec.com
2. Select your product(s)
3. Fill in your cart
4. Finalise your order

More information: eos@eurogentec.com
00 800 666 00 123
(European toll free number)

**FULL OF ADVANTAGES**

1. Manage your profile
2. Fast order and favourite products
3. Request quotes

Discounted prices are automatically applied and tagged with a four-leaves clover on the related product web pages.

**LICENSE STATEMENTS**

**Rox Passive Reference**

- The purchase of this product includes a limited, non-transferable right to use the purchased amount of the product to perform Applied Biosystems’ patented Passive Reference Method for the purchaser’s own internal research. No right under any other patent claim 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. This product is for research use only. For information about these rights or on obtaining additional rights, please contact outlicensing@lifetech.com or Out Licensing, Life Technologies, 5791 Van Allen Way, Carlsbad, California 92008.com.

**TRADEMARKS/LABELS**

- MapMarker® is a registered trademark of BioVentures, Inc.
- Mupid® is a registered trademark of Advance Co., Ltd
- SYBR® Green is a registered trademark of Molecular Probes, Inc.
- (a wholly owned subsidiary of Invitrogen Corp.)
- Takyon™ is a trademark of Kaneka Eurogentec S.A.

**RELATED PRODUCTS**

Custom Oligonucleotides
PCR and qPCR
- qPCR Takyon™ kits
- qPCR Controls
- qPCR plastics
- PCR Takyon™ enzymes
- 2X Takyon™ mixes for PCR
- dNTPs

SMART Gene Analysis

January_2018
KANeka Eurogentec S.A. is part of Kaneka