GRiSP
RESEARCH SOLUTIONS
2018

GRiSP Research Solutions would like to welcome you to our 2018 catalogue

About GRiSP

Located in Porto, Portugal and celebrating 10 years, GRiSP empowers Life Science Research by supplying researchers in the growing fields of molecular biology, biotechnology, biochemistry and genetics, with high-quality reagents, kits and solutions.

Dedicated to the development, production and commercialization of cutting-edge as well as everyday products, our team is highly motivated to provide these value-added tools at competitive prices, allowing our customers to drive their research to the next level.

At GRiSP, we strive to the perfect combination of performance, service and costs, always keeping you in mind. We believe this catalogue gives you access to a comprehensive range of products for DNA electrophoresis, Nucleic Acid Purification, PCR, qPCR, RNA Research, Molecular Cloning, Protein Research, Cell Biology and related areas, which meets your needs to achieve excellent results.

Find out more about GRiSP at www.grisp.pt or ask your local distributor, and do not hesitate to contact us with your questions or suggestions, because your feedback matters!

GRiSP Team

Terms and Conditions:

GRiSP, Lda. reserves the right to change prices as well as terms and conditions, without previous notice. GRiSP, Lda. is committed to the quality of its products. However, if a product is proven to be defective (e.g. caused by transport), returns are accepted within 10 days after receiving the product. Products ordered by mistake can be returned within 10 days after receiving the product, if unused and not damaged, and transport costs for adequate shipping conditions are to be assumed by the customer.

Placing an order:

Directly via E-mail or our distributors.

VAT NR:
PT508573920

Please use one of the following contacts:

Email: info@grisp.pt
Tel: +351 220 301 599

Postal Address:

GRiSP, Lda.
Rua Alfredo Allen, 455
4200-135 Porto
Portugal

Payment Options

GRiSP accepts payment via bank transfer.
Pleaseuse the following account data:

Account:
Grisp, Lda
IBAN: PT50 0046 0109 0060 0193 9380 2
BIC/SWIFT: CRBNPTPL
Bank: Banco Popular Portugal, SA

Delivery time

Portugal: Courier; 1-2 working days after order (except in case of stock rupture)
Other Countries: Contact your local distributor, or info@grisp.pt for more information

grisp Research Solutions

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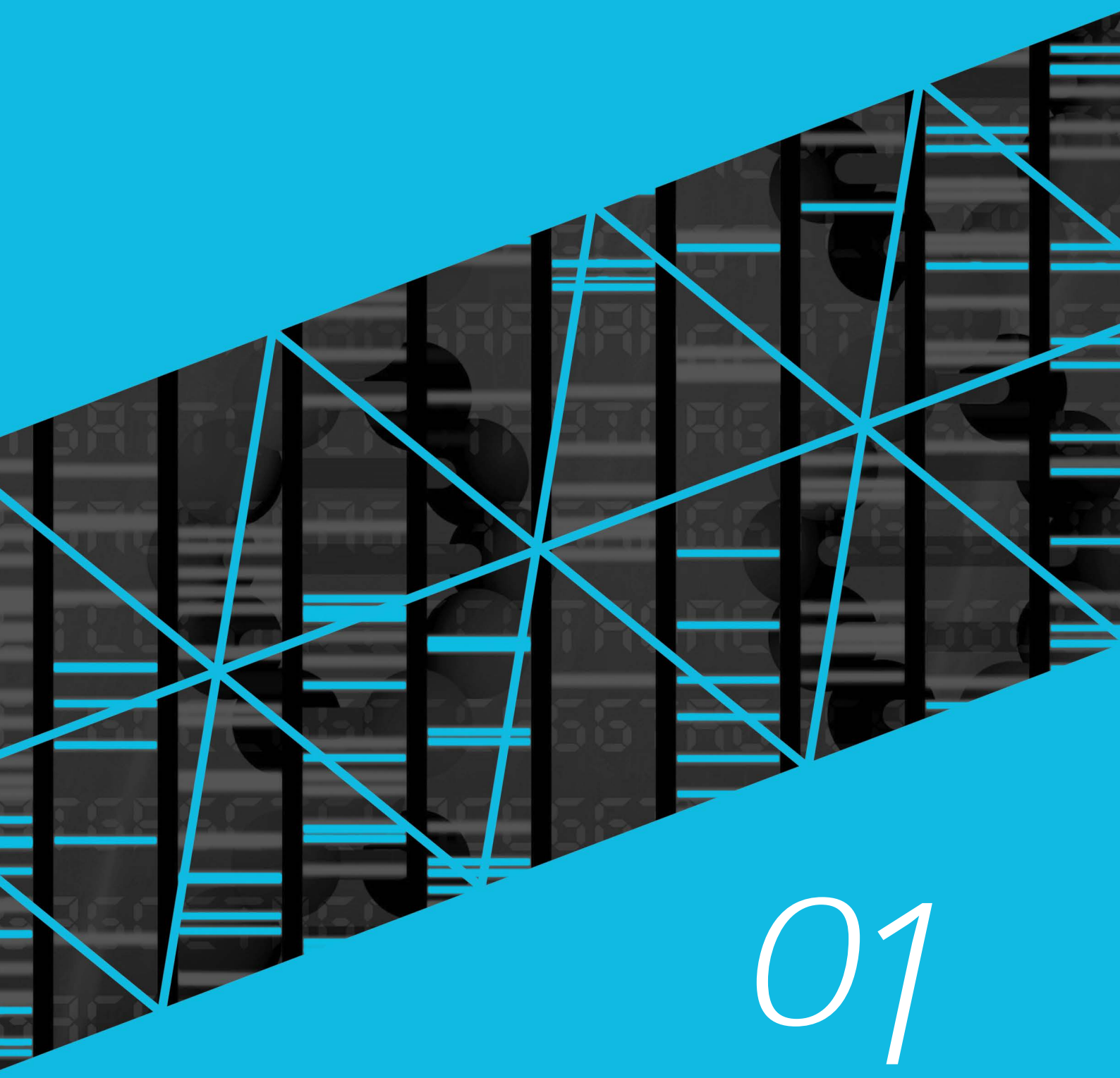


01

Fast Electrophoresis

Perform your DNA Agarose Gel Electrophoresis under Fast conditions with the new SGTB Buffer

SGTB Agarose Electrophoresis Buffer

SGTB is a NEW buffer ideal for Agarose Electrophoresis of DNA fragments of 100bp to 1000bp.
SGTB allows much faster runs (Time Saving). Agarose gel electrophoresis using SGTB results in very sharp bands (High Resolution) and with Better Separation. Gels made with SGTB are clearer and stronger. With SGTB you can save 25% on agarose.

GB01.0120	1L 20X
GB01.0510	5L 10X
GB01.0520	5L 20X

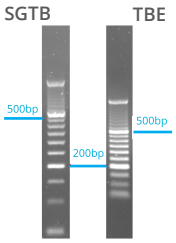


Fig 1/ Comparison of SGTB vs TBE: A 50bp DNA ladder (200bp, 500bp, and 1kb are more intense for identification) was resolved by 2% agarose electrophoresis, using a standard agarose (LE), on a 10cm length minigel until the 200bp band migrated 45mm. Initial temperatures were 20ºC and final temperatures were 38ºC and 29ºC, resp.

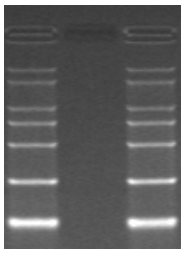


Fig 2/ DNA marker (100bp, 250bp, 500bp, 750bp, 1000bp, 1500bp, and 2000bp) resolved in 25 min at 200V using 1,5% standard agarose gel electrophoresis

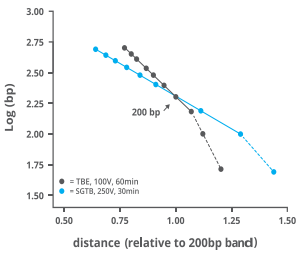


Fig 3/ Comparison of SGTB vs TBE: relationship between Relative distances and DNA size. A 50-bp DNA ladder was separated using 2% standard agarose. Since tracking dyes migrate differently in gels prepared with SGTB, Relative mobility was determined relatively to the 200bp band. As can be clearly seen, using SGTB results in a much better separation of DNA fragments in the whole range of 500bp to 50bp than with using TBE, as distances between similar sizes are greater.

Agaroses

Molecular Biology Grade agaroses, DNase- RNase- and Protease-free, suitable for the most demanding applications. High purity allowing high resolution.

GRS Agarose LE (high resolution for routine analytical and preparative applications)	GA110.0500	500 g
GRS Agarose LMT (Low Melting, for DNA/RNA/Protein & in gel reactions)	GA115.0050	50 g
GRS Agarose S-LMT (Low melting, fine resolution of small DNA fragments)	GA116.0050	50 g

DNA Stains

New and safe alternatives to ethidium bromide (EtBr) for the visualization of DNA and RNA in agarose and polyacrylamide gels.

Xpert Green DNA Stain NEW

- Safe (non-carcinogenic, non-mutagenic, non-toxic)
- for dsDNA, ssDNA and RNA
- for Agarose and Polyacrylamide gels
- as sensitive as EtBr
- no hazardous waste
- compatible with both UV light and Blue LED
- improved cloning efficiency (when using Blue LED)

GS01.0001 | 1 mL (20.000X)

Developed for in-gel staining.

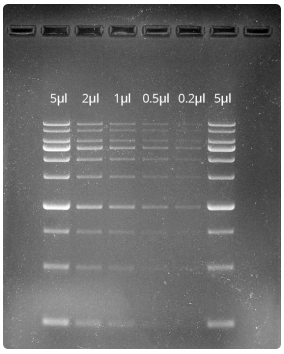


Figure 1. Electrophoresis of different quantities of GRS Ladder 1kb on a 1,2% agarose gel (TAE, 90V, 60min).

Albeit 5µl is recommended, when applying only 1µl, all bands can be readily detected with Xpert Green DNA Stain using a Blue LED transillumi-nator.

	UV Compatible	Blue Light Compatible	Detection Limit (ng)
Xpert Green DNA Stain	✓	✓	0.5-5.0
Xpert Green DNA Stain Direct	✓	✓	0.1-1.0
EtBr	✓	✗	0.5-5.0

Xpert Green DNA Stain Direct NEW

- Direct Loading (no need for loading dye)
- for Agarose and Polyacrylamide gels
- for dsDNA, ssDNA and RNA
- magnificent signal-to-noise ratio
- compatible with both UV light and Blue LED
- no hazardous waste
- ultrasensitive
- Safe (non-carcinogenic, non-mutagenic, non-toxic)
- improved cloning efficiency (when using Blue LED)

GS02.0001 | 1 mL

Developed for direct loading as loading buffer

Loading Buffer

GRS DNA Loading Buffer Blue (6x)

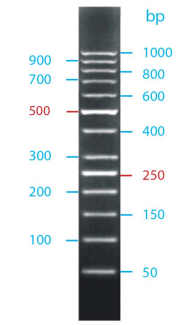
GLB01.0001 | 1 mL

GLB01.0501 | 5x 1 mL

DNA Ladders

Set of Six ready-to-use DNA ladders that are stable at room temperature: three standard and three specific ladders to meet your needs, all consisting of very sharp bands and including internal refence bands.

GRS Ladder 50bp



3% Agarose, 0.5x TAE, 50V - 1h
minigel - 5µL/lane

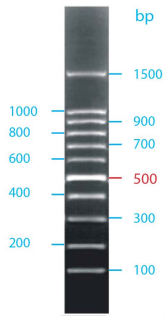
Recommended Loading: 2-5 µL / lane

Suitable for sizing linear double-stranded DNA fragments from 50bp-1000bp, and composed of 13 linear chromatography-purified individual DNA fragments.

All bands (except 250bp and 500bp, which have increased intensity) are supplied at approximately 40ng/5µL

GL031.0050	50 µg
GL031.5050	5x 50 µg

GRS Ladder 100bp



1.7% Agarose, 0.5x TBE, 50V - 1h
minigel - 5µL/lane

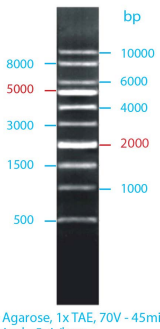
Recommended Loading: 2-5 µL / lane

Suitable for sizing linear double-stranded DNA fragments from 100bp-1500bp, and composed of 11 linear chromatography-purified individual DNA fragments.

All bands (except 500bp, which has increased intensity) are supplied at approximately 40ng/5µL

GL041.0050	50 µg
GL041.5050	5x 50 µg

GRS Ladder 1kb



1% Agarose, 1x TAE, 70V - 45min
minigel - 5µL/lane

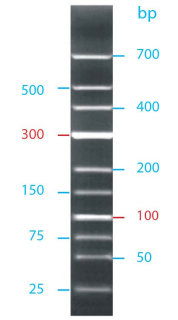
Recommended Loading: 2-5 µL / lane

Suitable for sizing linear double-stranded DNA fragments from 500bp-10kb, and composed of 10 linear chromatography-purified individual DNA fragments.

All bands (except 2kb and 5kb, which have increased intensity) are supplied at approximately 40ng/5µL

GL051.0050	50 µg
GL051.5050	5x 50 µg

GRS Low Range Ladder



3% Agarose, 0.5x TAE, 50V - 1h
minigel - 5µL/lane

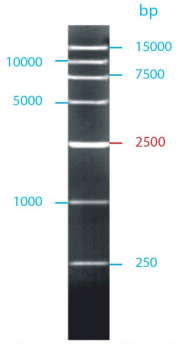
Recommended Loading: 2-5 µL / lane

Suitable for sizing linear double-stranded DNA fragments from 25bp-700bp, and composed of 10 linear chromatography-purified individual DNA fragments.

All bands (except 100bp and 300bp, which have increased intensity) are supplied at approximately 40ng/5µL

GL011.0050	**50 µg**
GL011.5050	**5x 50 µg**

GRS High Range Ladder



1% Agarose, 1x TAE, 70V - 45 min
minigel - 5µL/lane

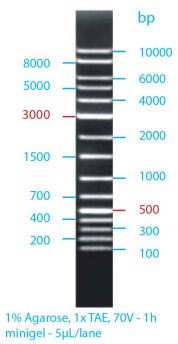
Recommended Loading: 2-5 µL / lane

Suitable for sizing linear double-stranded DNA fragments from 250bp-15kb, and composed of 7 linear chromatography-purified individual DNA fragments.

All bands (except 2500bp, which has increased intensity) are supplied at approximately 40ng/5µL

GL021.0050	**50 µg**
GL021.5050	**5x 50 µg**

GRS Universal Ladder



1% Agarose, 1x TAE, 70V - 1h
minigel - 5µL/lane

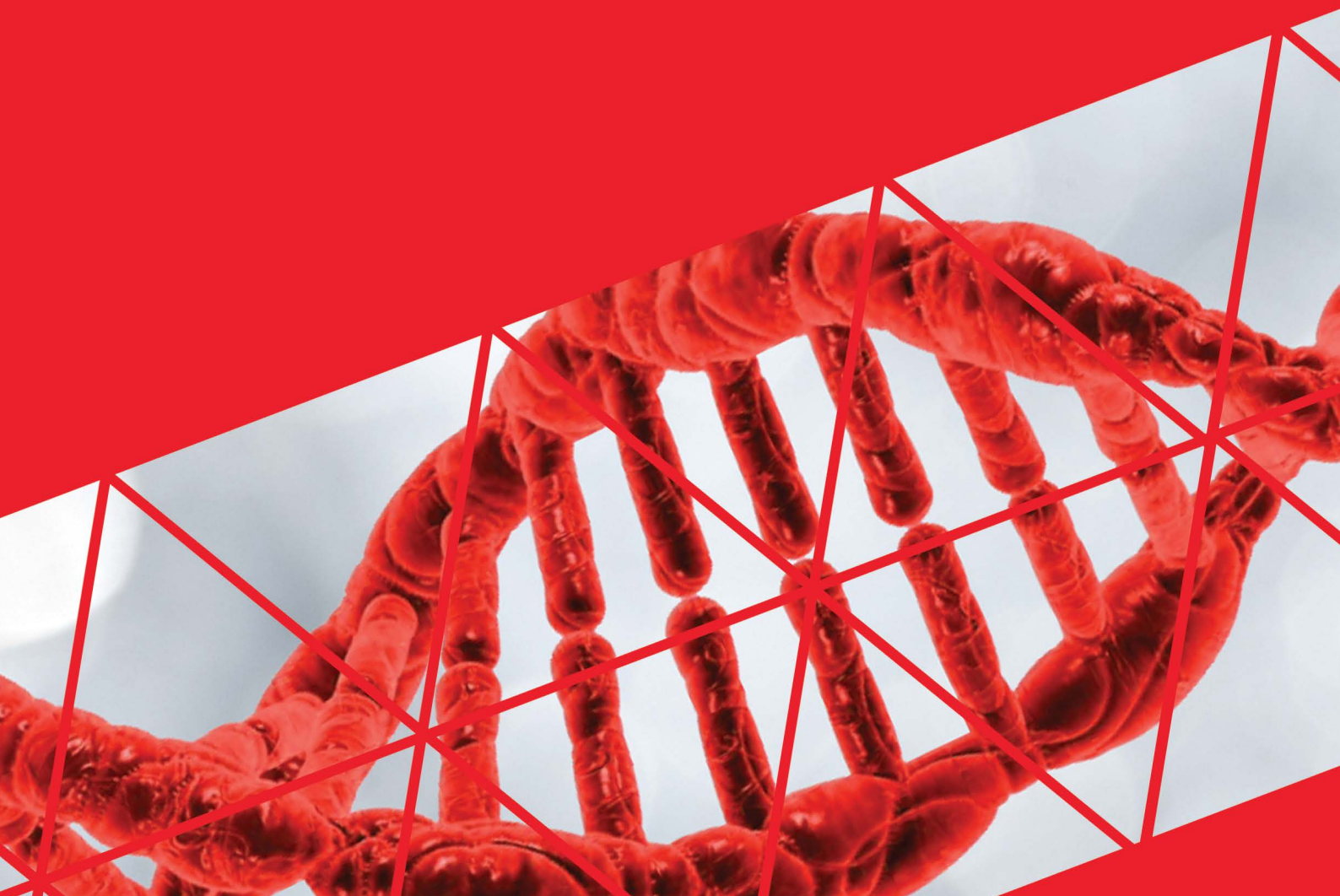
Recommended Loading: 2-5 µL / lane

Suitable for sizing linear double-stranded DNA fragments from 100bp-10kb, and composed of 15 linear chromatography-purified individual DNA fragments.

All bands (except 500bp and 3kb, which have increased intensity) are supplied at approximately 40ng/5µL

GL061.0050	**50 µg**
GL061.5050	**5x 50 µg**

Nucleic Acid Purification



PCR Purification
gDNA Purification
RNA Purification
DNA / RNA Purification
DNA / RNA / Protein Purification
Plasmid Purification
Enzymes
Columns

02

PCR Purification

Complete range of PCR clean-up products based on the best available technologies, including enzymatic, spin column, and SPRI beads based purification methods.

GRS PCR & Gel Band Purification Kit

The GRS PCR & Gel Band Purification Kit provides an efficient and fast method for the purification and/or concentration of high quality DNA fragments (70bp to 15kb) from PCR reactions, enzymatic restriction digestion or from agarose gels.

Recoveries up to 95% (PCR Clean-up) or up to 90% (Gel Extraction).

Contains a pH indicator to ensure optimal pH for DNA binding.

GK01.0100	100 preps
GK01.3100	3x 100 preps
GK01.5100	5x 100 preps

Exo/SAP Go - PCR Purification Kit

Enzymatic PCR Clean-Up kit, comprising Exonuclease I (Exo I) and recombinant Shrimp Alkaline Phosphatase (rSAP) in an optimal molar ratio. Unused primers are hydrolyzed by Exo I, whilst rSAP dephosphorylates excess dNTPs.
100% recovery, even for very short PCR products.

DNA is ready for sequencing in 15 minutes.

GK18.0500	500 rxn
GK018.2000	4x 500 rxn

100% amplicon recovery

Xpert Purification SPRI Magnetic Beads NEW

Xpert Purification SPRI (Solid Phase Reversible Immobilization) Magnetic Beads consists of paramagnetic particles coated with carboxyl groups that reversibly bind DNA. The magnetic beads are supplied in a buffer that has been optimized in order to selectively bind DNA fragments of 100bp and larger. Primers, primer dimers, dNTPs, enzymes, excess salts, and other impurities can be removed quickly and efficiently by a simple washing procedure.

Can be seamlessly integrated into NGS Library preparation workflows.

GK19.0005	5 mL
GK19.0025	25 mL
GK19.0060	60 mL

gDNA Purification

Spin column based genomic DNA purification kits. Complete range to ensure that there is always an option avaliable for your type of sample.

- Spin Columns based
- High yield
- Fast and efficient procedure
- Proteinase K, RNase A, Lysozyme included, if required for the main protocol
- Adaptations available, for samples other than the primary application

GRS Genomic DNA Kit - Blood & Cultured Cells (for whole and frozen blood, buffy coat, and cultured animal cells) (available adaptation for bacteria, and fungus)	GK02.0100	100 preps
GRS Genomic DNA Kit - Tissue (for tissues like tailsnips, liver, kidney, brain, adipose tissue, earpunches, insects, and FFPE) (available adaptation for Amniotic Fluid, Buccal Swab, Soil, and Stool)	GK03.0100	100 preps
GRS Genomic DNA Kit - Plant (for Plant tissue and cells)	GK04.0100	100 preps
GRS Genomic DNA Kit - Bacteria (for Gram (+) positive and Gram (-) negative bacteria)	GK07.0100	100 preps
GRS Genomic DNA Kit - BroadRange (for whole and frozen blood, serum, plasma, buffy coat, amniotic fluid, buccal swab, hair, tissue, rodent tails, ear-punches, FFPE, and insect cells) (available adaptation for Cultured Cells)	GK06.0100	100 preps
GRS Genomic DNA Kit - Card (for dried blot spots, on Whatman® FTA® Cards)	GK25.0100	100 preps
GRS Pure DNA Kit (for purification and/or concentration from samples containing partial purified DNA)	GK05.0100	100 preps

RNA Purification

Spin column based total RNA isolation kits. Complete range to ensure that there is always an option avaliable for your type of sample.

- Spin Columns based
- High yield
- Fast and efficient procedure
- DNase I included
- Indivilually packed columns

GRS Total RNA Kit - Blood & Cultured Cells (for fresh whole blood, and cultured animal cells)	GK08.0100	100 preps
GRS Total RNA Kit - Tissue (for a wide variety of tissues and FFPE)	GK09.0100	100 preps
GRS Total RNA Kit - Plant (for Plant tissue and cells)	GK10.0100	100 preps
GRS Total RNA Kit - Bacteria (for Gram (+) positive and Gram (-) negative bacteria)	GK16.0100	100 preps
GRS Total RNA Kit - Yeast & Fungus (for yeast and a wide variety of fungus species)	GK17.0100	100 preps
GRS Pure RNA Kit (for purification and/or concentration from samples containing partial purified RNA)	GK15.0100	100 preps
GRS microRNA Purification Kit (for purification of high quality miRNAs, from fresh blood, cultured cells, tissue, and FFPE)	GK11.0050	50 preps

tripleXtractor reagent

Cost-effective monophasic phenol/guanidine thiocyanate solution. Ready-to-use reagent for the isolation of high-quality total RNA from cells and tissues. DNA and/or proteins can be subsequently recovered by sequential precipitation.

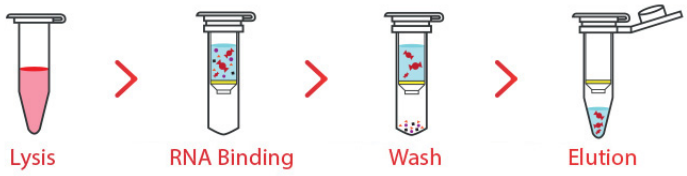
Adaptation available, for recovering microRNAs from samples in tripleXtractor, using our GRS microRNA Purification kit (#GK11)

GB23.0050	50 mL
GB23.0100	100 mL
GB23.0200	200 mL

tripleXtractor directRNA Kit

Combination of the strong lysis capability of "TripleXtractor" with a spin column system for convenient and rapid (within 15 min) purification of ultrapure RNA, without the need of chloroform phase separation and isopropanol precipitation.
Also, DNase I treatment and individually packed columns included, for additional guarantee.

GK23.0100	100 preps



DNA / RNA Purification

GRS Viral DNA/RNA Purification Kit
(for DNA and RNA from cell-free media (serum, plasma, body fluids, and the supernatant from viral infected cell cultures)

GK12.0050	50 preps

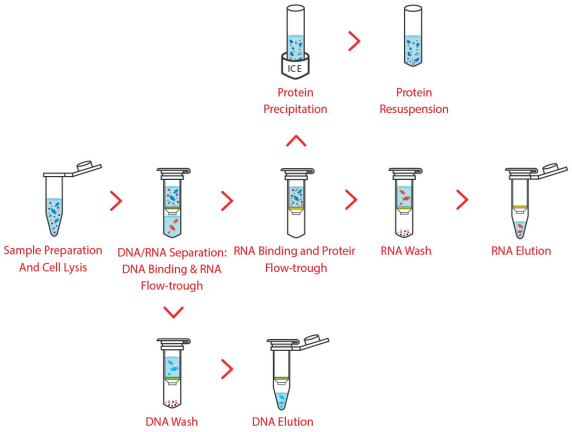
DNA/RNA/Protein Purification

When sample is precious, the best option is to recover DNA, RNA and protein from the same volume, using this kit.

GRS FullSample Purification Kit

The GRS FullSample Purification Kit provides an efficient and fast method for the simultaneous purification of genomic DNA, total RNA (including miRNA), and total protein from whole blood and other biological fluids, animal tissues, and cultured cells.

GK26.0050 **50 preps**



Plasmid Purification

Spin column based plasmid purification kits, for fast and high-quality results.

GRS Plasmid Purification Kit - Mini

Efficient and fast method for the purification of high quality plasmid DNA from 1-6 ml of cultured bacterial cells.
Eluted DNA is suitable for all common downstream applications including PCR, enzymatic restriction digestion, cloning and DNA sequencing.

GK13.0100 **100 preps**
GK13.3100 **3x 100 preps**
GK13.5100 **5x 100 preps**

Includes Blue Lysis Buffer for easy visualization of lysis and neutralization.

Enzymes

Range of highly pure enzymes, commonly used in Nucleic Acid Purifications.

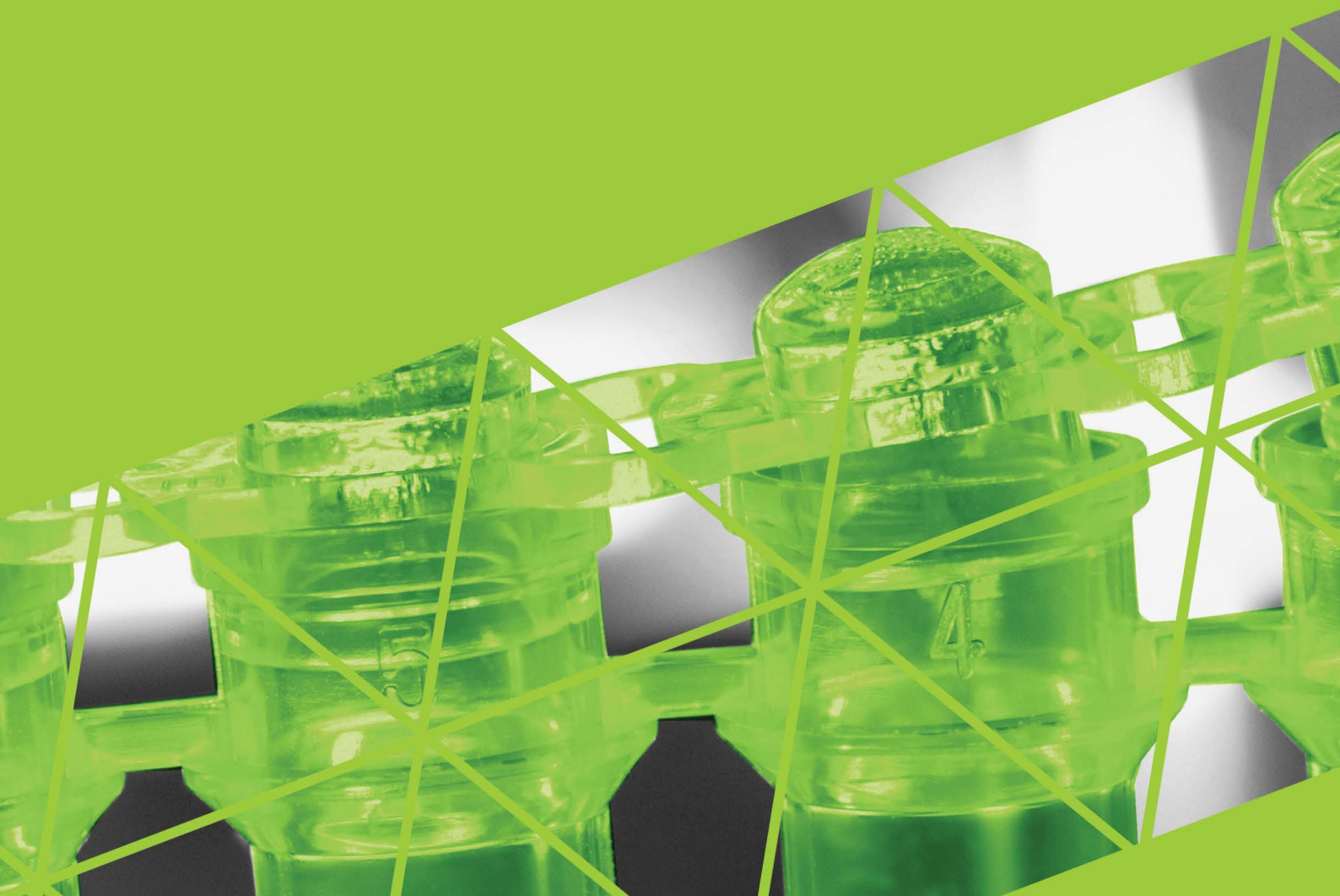
Proteinase K (lyophilized, ~30KU/mg)	GE010.0100	100 mg
RNase A (lyophilized, >50KU/mg) DNase and Protease-free	GE011.0100	100 mg
DNase I (lyophilized, >2000KU/mg) RNase-free	GE012.0100	100 mg
Zymolyase® -20T	GE013.0001	1 g
Shrimp Alkaline Phosphatase (rSAP) (1U/µL - 1mL)	GE015.0001	1000 U
Exonuclease I (20U/µL - 1mL)	GE014.0001	20000 U

Columns

Silica-based spin columns for Nucleic Acid Purifications, which can conveniently be incorporated in your specific method.

PCR Purification & Gel Extraction Columns	GKC.PG50	50 units
Genomic DNA mini Columns	GKC.GC50	50 units
Genomic DNA filter columns	GKC.GF50	50 units
RNA mini Columns (individually packed)	GKC.RC50	50 units
RNA filter Columns	GKC.RF50	50 units
Viral mini Columns	GKC.VC50	50 units
Plasmid Purification mini Columns	GKC.PN50	50 units

DNA Amplification



End-Point PCR
Improved End-Point PCR
Fast PCR
Long PCR
High-Fidelity PCR

Direct PCR
qPCR
Nucleotides
Water
PCR Plastics

03

End-Point PCR

Standard Taq DNA polymerases for routine applications, when regular samples are used.

Product	Application	Speed	Size
GRS Taq	Routine PCR	1 kb/min	up to 5kb
GRS Hotstart Taq	Routine PCR with Hotstart	1 kb/min	up to 5kb

GRS Taq DNA Polymerase

Recombinant thermostable enzyme, with identical characteristics as native Taq, regarding activity, specificity, thermostability, and performance in PCR. Highly purified, it is the entry level option for routine PCR amplifications.

GRS Taq DNA Polymerase	GE01.0500	500 U
	GE01.2500	2500 U
GRS Taq DNA Polymerase (+dNTPs)	GE11.0500	500 U
	GE11.2500	2500 U
GRS Taq (2x) Mastermix (without dye)	GE02.0100	1.25 mL
	GE02.5100	5x 1.25 mL

GRS Taq Hotstart DNA Polymerase NEW

Recombinant thermostable enzyme, with antibody based hotstart, for increased sensitivity and specificity. Highly purified, it is the entry level option for routine PCR amplifications when hotstart is required.

GRS Taq Hotstart DNA Polymerase	GE71.0500	500 U
	GE71.2500	2500 U
GRS Taq Hotstart DNA Polymerase (+dNTPs)	GE72.0500	500 U
	GE72.2500	2500 U
GRS Taq Hotstart (2x) Mastermix (without dye)	GE73.0100	1.25 mL
	GE73.5100	5x 1.25 mL

Improved End-Point PCR

Improved Taq DNA polymerases for routing applications, because demanding samples require enhanced amplification capacity.

Product	Application	Speed	Size
Xpert Taq	Improved Routine PCR	1 kb/min	up to 8kb
Xpert Hotstart	GC-rich / Multiplex	2 kb/min	up to 5kb

Xpert Taq DNA Polymerase

DNA polymerase with enhanced performance, optimized for demanding routine amplifications. The robustness of Xpert Taq DNA polymerase, as well as its high sensitivity and yield, makes this the ideal enzyme for daily amplifications with improved results.

Xpert Taq DNA Polymerase (includes buffers with and without dye)	GE03.0500	500 U
	GE03.2500	2500 U
Xpert Taq DNA Polymerase (+dNTPs) (includes buffers with and without dye)	GE13.0500	500 U
	GE13.2500	2500 U
Xpert Taq (2x) Mastermix	GE04.0100	1.25 mL
	GE04.5100	5x 1.25 mL
Xpert Taq (2x) Mastermix with dye	GE14.0100	1.25 mL
	GE14.5100	5x 1.25 mL

Xpert Hotstart DNA Polymerase

Chemically modified hotstart Taq DNA polymerase with excellent amplification efficiency, enabling higher specificity, increased sensitivity, and greater yield, as compared to standard Taq DNA polymerases. The ideal choice for consistent results in complex PCR amplifications and multiplex PCR.

Xpert Hotstart DNA Polymerase (+dNTPs)	GE08.0500	500 U
Xpert Hotstart (2x) Mastermix	GE18.0100	1.25 mL
	GE18.5100	5x 1.25 mL
Xpert Hotstart (2x) Mastermix with dye	GE28.0100	1.25 mL
	GE28.5100	5x 1.25 mL

Fast PCR

Based on the enhanced characteristics of Xpert Fast DNA Polymerase, it is now possible to perform amplifications with extreme sensitivity and speed, saving precious time, without sacrifying performance.

Product	Application	Speed	Size
Xpert Fast	Fast Routine PCR	2 sec/kb	up to 5kb
Xpert Fast Hotstart	GC-rich / Fast Multiplex / directPCR	2 sec/kb	up to 5kb

Xpert Fast DNA Polymerase

Robust enzyme, ideal for amplifying with extreme speed, yield and consistency. PCR products generated with this enzyme are A-tailed, and can thus be cloned into TA cloning vectors.

Extension time can be as low as 2s, when amplifying targets below 1kb.

Xpert Fast DNA Polymerase (buffer with dNTPs included)	GE05.0500	500 U
Xpert Fast (2x) Mastermix with dye	GE15.0001	1 mL
	GE15.5001	5x 1 mL

Xpert Fast Hotstart DNA Polymerase

Robust enzyme, suitable for the amplification of difficult targets with extreme speed, yield and specificity. The optimized buffer composition makes the enzyme particularly resistant to PCR inhibitors. Xpert Fast Hotstart DNA Polymerase is suitable for direct PCR from unpurified samples, making this the ideal choice for consistent results in fast complex PCR amplifications.

Xpert Fast Hotstart DNA Polymerase (buffer with dNTPs included)	GE25.0250	250 U
Xpert Fast Hotstart (2x) Mastermix	GE35.0001	1 mL
	GE35.5001	5x 1 mL
Xpert Fast Hotstart (2x) Mastermix with dye	GE45.0001	1 mL
	GE45.5001	5x 1 mL

Long PCR

Taq PLUS, because long PCR is a demanding application !

Product	Application	Speed	Size
Xpert Taq PLUS	Long PCR / GC-rich / complex samples	1- 4 kb/min	up to 30kb

Xpert Taq PLUS DNA Polymerase

Enhanced DNA polymerase with superior PCR performance when it comes to the amplification of long templates (up to 30kb). The enzyme is particularly efficient for the amplification of difficult templates, such as mammalian genomic DNA and GC-rich or AT-rich templates.

Xpert Taq PLUS Hotstart DNA Polymerase (buffer with dNTPs included)	GE09.0250	250 U
Xpert Taq PLUS Hotstart (2x) Mastermix	GE19.0001	1 mL
	GE19.5001	5x 1 mL
Xpert Taq PLUS Hotstart (2x) Mastermix with dye	GE29.0001	1 mL
	GE29.5001	5x 1 mL

High-Fidelity PCR

If you need a proof-reading enzyme, only the best is good enough. Choose for 50x less errors than regular Taq.

Xpert HighFidelity DNA Polymerase

Robust enzyme with enhanced DNA binding, resulting in improved processivity, yield, and extremely low error-rate, ideal for applications such as high-fidelity PCR, site-directed mutagenesis, crude sample PCR, blunt-end cloning, among others, where robustness and proof-reading are important.

Error-rate 50x lower than Taq DNA polymerase, 2 kb/min speed, and capable of amplifying up to 10kb.

Xpert HighFidelity DNA Polymerase (buffer with dNTPs included)	GE07.0250	250 U

PCR Selection Table

Select the right product for your application, with the help of our PCR selection guide.

Whether for End-Point PCR, Improved End-Point PCR, Fast PCR, Long PCR, or High-Fidelity, we can provide you with a high performance option adjusted to your sample needs.

Product	Application	Speed	Size
GRS Taq	Routine PCR	1 kb/min	up to 5kb
GRS Hotstart Taq	Routine PCR with Hotstart	1 kb/min	up to 5kb
Xpert Taq	Improved Routine PCR	1 kb/min	up to 8kb
Xpert Hotstart	GC-rich / Multiplex	2 kb/min	up to 5kb
Xpert Fast	Fast Routine PCR	2 sec/kb	up to 5kb
Xpert Fast Hotstart	GC-rich / Fast Multiplex / directPCR	2 sec/kb	up to 5kb
Xpert Taq^{PLUS}	Long PCR / GC-rich / complex samples	1- 4 kb/min	up to 30kb
Xpert HighFidelity	Site Directed Mutagenesis Blunt-End Cloning	2 kb/min	up to 10kb

When looking for a Taq DNA Polymerase:
Choose between GRS Taq (regular samples), Xpert Taq (demanding samples), and Xpert Fast (fast results).

When looking for a hotstart Taq DNA Polymerase:
Choose between GRS Taq Hotstart (regular samples), and Xpert Hotstart (low amount samples, multiplex PCR applications, GC-rich problems).

When looking for a crude sample / direct PCR option:
Choose between Xpert Fast Hotstart (fast, with high tolerance to inhibitors), and Xpert Taq PLUS (enhanced amplification even for samples contaminated with inhibitors).

When looking for a Multiplex PCR option:
Choose between Xpert Fast Hotstart (fast multiplex), and Xpert Hotstart (chemical hotstart for increased sensitivity and specificity).

IMPORTANT:

GRiSP recommends following our protocol guidelines at all times.
Our enzymes are not regular options, and may not work as expected when other protocols are used, rather than the supplied with the product.

DirectPCR

There is a growing need for fast and efficient methos for dectection. DirectPCR allows for the DNA amplification of crude sample extracts, without compromising quality.

Below you can find our solutions for directPCR with high performance and efficiency.

Xpert directXtract PCR Kit

Combination of a simple but efficient DNA extraction method with direct amplification using Xpert Fast Hotstart DNA polymerase in a convenient and easy-to-use manner.

Can be used with a variety of samples including whole blood, mouse tails, FTA-cards, and FFPE tissue, and is thus ideal for geno-typing and screening, eliminating the need of time-consuming and costly DNA purification methods.

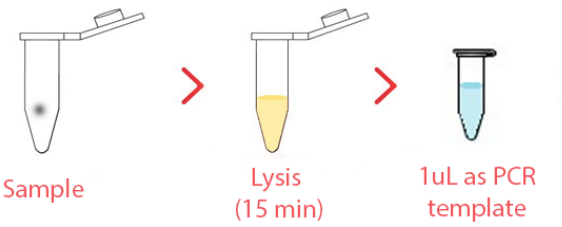
Lysis: 15min
Amplification: 4-8 kb/min (using Xpert Fast Hotstart)

Xpert directXtract PCR Kit (with dye)	GE60.0080	80 rxn
	GE60.0480	480 rxn
Xpert directXtract PCR Kit (without dye)	GE62.0080	80 rxn
	GE62.0480	480 rxn
Xpert directXtract Lysis Buffer (lysis only)	GE61.0080	80 rxn

GE60 contains Xpert Fast Hotstart (2x) Mastermix with Dye (#GE45) - page 22
GE62 contains Xpert Fast Hotstart (2x) Mastermix (#GE35) - page 22

GRiSP does not recommend the combination of Xpert directXtract Lysis Buffer with enzymes, from other vendors. Despite the application may work with other enzymes, we do not guarantee the high performance results that are guaranteed to be achieved with our Xpert Fast Hotstart enzyme.

Mouse Genotyping Application Note using Xpert directXtract can be downloaded from the product page on our website - learn how to perform you Mouse Genotyping in 1h15m



qPCR

Looking for a high performance qPCR portfolio for fast cycling results, with low inhibition? We can help!

With solutions for both SYBR and Probe based assays, GRiSP offers a complete range of competitive products, with top performance.

Xpert Fast SYBR

Combination of a highly efficient enzyme with a novel low inhibitory technology. The intercalating dye used in this mastermix causes little to no inhibition of the PCR reaction thus allowing for extremely high sensitivity and specificity, as well as preventing the formation of unwanted primer-dimers and non-specific products.

Supplied in multiples of 1mL, for additional convenience and reduction of contaminations during procedure.

Available also as Blue version, for visual pipetting aid.

- Absolute quantification
- Gene expression analysis
- High throughput PCR
- Low-copy number target gene detection
- Excellent signal with low PCR inhibition
- Early Ct values – Rapid extension rate
- Extreme sensitivity – increased limit of detection
- Allows for standard and fast cycling

Xpert Fast SYBR (uni)	GE20.0100	1 mL
	GE20.5100	5x 1 mL
	GE20.2501	25x 1 mL
Xpert Fast SYBR (uni) BLUE	GE22.0100	1 mL
	GE22.5100	5x 1 mL
	GE22.2501	25x 1 mL
Xpert Fast SYBR (fluorescein)	GE21.0100	1 mL
	GE21.5100	5x 1 mL
	GE21.2501	25x 1 mL

Left:
Xpert Fast SYBR

Right:
Xpert Fast SYBR Blue

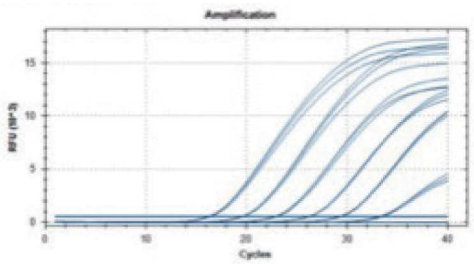
Xpert Fast Probe

Combination of a highly efficient enzyme with a novel low inhibitory technology, which prevents the formation of primer-dimers, thus allowing for extremely high sensitivity and specificity.
Compatible with a wide range of probe-based technologies, including Taqman®, Molecular Beacons® and Scorpion probes®.

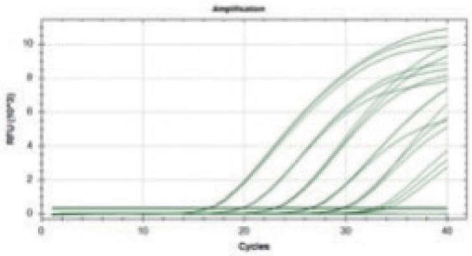
Supplied in multiples of 1mL, for additional convenience and reduction of contaminations during procedure.

- Absolute quantification
- Gene expression analysis
- Multiplex or singleplex PCR
- Low-copy number target gene detection
- Diagnostic real-time PCR
- High Efficiency in multiplex reactions
- High Efficiency in GC/AT-rich templates
- Early Ct values – Rapid extension rate
- Extreme sensitivity – increased limit of detection
- Allows for standard and fast cycling

Xpert Fast Probe (uni)	**GE30.0100**	**1 mL**
	GE30.5100	**5x 1 mL**
	GE30.2501	**25x 1 mL**



Amplification
of ACVR1B gene



Amplification
of ACVR2B gene

qPCR Version Explanation

Xpert Fast SYBR and Xpert Fast Probe versions are available for most of the qPCR machines on the market.

UNI versions
Suitable for all qPCR machines (except BioRad® iCycler®)
Supplied with 1 vial enzyme and 1 vial ROX. Add ROX to the enzyme vial, if neededm according to the instructions on the protocol, depending on the machine to be used).

Fluorescein version
Suitable for BioRad® iCycler® machines.
Supplied with 1 vial enzyme, ready to be used for qPCR experiments.

Nucleotides

Highly pure (>99%) dNTPs, free of endonuclease, exonuclease, RNase, and phosphatase activity.

GRS dNTP mix (10mM each)	GP010.0001	1 mL
	GP010.0501	5x 1 mL
GRS dNTP set (100mM each)	GP011.0411	4x 0.25 mL

Water

Ultrapure water, free of DNases, RNases, Phosphatases and Nucleic Acids.
Not DEPC treated.

GRS PCR Grade Water	GW010.1001	10x 1 mL
	GW010.1000	1 L

PCR Plastics

Complete range of high quality, European made, plasticware for PCR and qPCR applications.

Made of virgin, medical grade, polymers, functionally QC tested free of nucleases, human gDNA and endotoxins.

GRS individual 0.2mL PCR tubes (flat cap)	GPP01.1000	1000 units
GRS PCR strips 0.2mL (attached flat caps)	GPP02.0120	120 strips
GRS PCR strips 0.1mL (attached flat caps)	GPP03.0120	120 strips
GRS PCR strips of 0.2mL tubes + strips of flat caps	GPP04.0120	120 strips (each)
GRS 96w PCR plates (non-skirted)	GPP05.0050	50 plates
GRS 96w qPCR plates (half-skirted)	GPP06.0050	50 plates
GRS 96w qPCR plates (half-skirted) white	GPP07.0050	50 plates
GRS 96w qPCR plates (full-skirted)	GPP08.0050	50 plates
GRS 96w qPCR plates (full-skirted) white	GPP09.0050	50 plates
GRS PCR seals	GPP10.0100	100 seals
GRS qPCR clear seals	GPP11.0100	100 seals
GRS 8-strips of flat caps	GPP12.0125	125 strips
NEW GRS 96well PCR plate (semi skirted) for LC480 (low profile)	GPP13.0050	50 plates
NEW GRS PCR Strip of 4 tubes with caps (for Rotor-Gene®)	GPP14.0250	250 tubes + caps
NEW GRS Roll for adhesive seals	GPP15.0001	1 unit

RNA Research

cDNA Synthesis

Storage & Decontamination

04

cDNA Synthesis

Achieve consistent results, even for demanding samples, with our new range of cDNA Synthesis products. Engineered enzymes with extreme performance, ready to assist you needs, whether you are looking for separate options with components, or more streamlined mastermix formats.

Xpert cDNA Synthesis Kit NEW

Xpert cDNA Synthesis Kit contains all components necessary for high performance cDNA synthesis applications, in separate components.

Xpert RTase has been optimized to perform under high temperatures (45°C-55°C), which facilitates the removal of secondary mRNA structures associated with high GC content. Together with the lack of RNase H activity, which ensures minimization of template degradation during long incubation times, this enables the preparation of long full-length cDNAs (up to 15kb).

The best option when looking for versatile utilization.

GK80.0100	100 rxn

- **Xpert RTase**
- **Reaction Buffer**
- **Random Hexamer Primer**
- **Oligo (dT)20**
- **RNase Inhibitor**
- **dNTP Mix**
- **RNase-free water**

Xpert cDNA Synthesis Mastermix NEW

Xpert cDNA Synthesis Kit contains all components necessary for high performance cDNA synthesis applications, supplied in a convenient mastermix format (oligo and random primers included in the mastermix).

Xpert RTase has been optimized to perform under high temperatures (45°C-55°C), which facilitates the removal of secondary mRNA structures associated with high GC content. Together with the lack of RNase H activity, which ensures minimization of template degradation during long incubation times, this enables the preparation of long full-length cDNAs (up to 15kb).

The best option when looking for convenience and optimized performance.

GK81.0100	100 rxn

- **Xpert RTase**
- **Mastermix**
- **RNase-free water**

Xpert cDNA Synthesis Supermix (with gDNA eraser) NEW

Xpert cDNA Synthesis Kit contains all components necessary for high performance cDNA synthesis applications, in a convenient supermix format (oligo and random primers included in the supermix).

Besides the advantages of the Xpert RTase enzyme, this product allows the removal of contaminating gDNA from the sample, in only 10 minutes, prior to the direct cDNA synthesis from the RNA template (gDNA-free RNA).

The best option when looking for optimized performance and extended assurance.

GK82.0100	100 rxn

- **Xpert RTase Mix**
- **Reaction Mix**
- **Reaction Stopper**
- **RNase-free water**

GRS One-Step RT-PCR Kit

Using gene-specific primers (GSP), the GRS One-Step RT-PCR Kit allows for first-strand cDNA synthesis and subsequent PCR in a single-tube reaction procedure, decreasing contamination risk and reducing hands-on time considerably

Contains an enzyme mix comprising a modified M-MLV reverse transcriptase with deficient RNase H activity and improved synthesis efficiency, combined with RNase inhibitor, and a convenient mastermix containing all other required components, including a high-fidelity DNA polymerase blend, dNTPs and tracking dye.

The best option when looking for single-tube cDNA synthesis and PCR amplification.

GK54.0100 | **100 rxn**

- **GRS RT-PCR Enzyme mix**
- **GRS One-Step RT-PCR mix**
- **RNase-free water**

Storage & Decontamination

Solutions for storing RNA and for decontamination of work material.

RNA Stand-by Solution

Aqueous solution that inactivates RNases and preserves cellular RNA of intact fresh tissues or cells.
Does not jeopardize quality nor quantity of the RNA to be isolated subsequently, whether the sample is stored frozen or not.
Perfect for tissue collection and storage.

GB33.0100 | **100 mL**

RNase Xterminator Spray

Ready-to-use solution, supplied in an easy-to-use Spray Bottle, for eliminating RNase, DNase, and other enzymes, as well as DNA contamination, from laboratory surfaces.
Simply spray on the contaminated area and wipe away from the surface using ultrapure water.

GG43.500S | **500 mL spray**

Cloning

Cloning Kits

Antibiotics

Miscelaneous

05

Cloning Kits

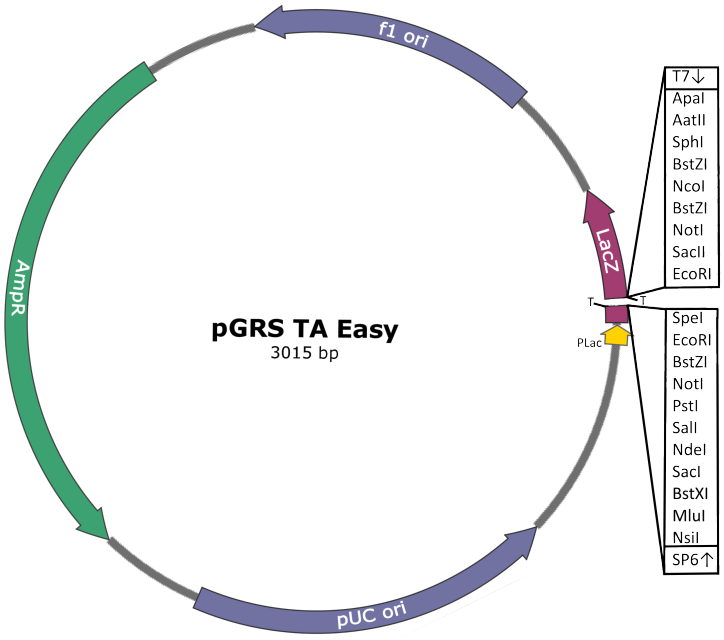
Efficient, Flexible and Robust TA-cloning kit for Easy&Fast direct cloning of PCR products generated with non-proofreading DNA polymerases or blends

Xpert TA Easy Cloning Kit NEW

- Ready-to-use stable linearized vector with single thymidine-overhangs
- Very Efficient (>700 positive colonies under optimal conditions)
- Low Background (<4%) due to reduced self-ligation
- Up to 10kb inserts
- Direct cloning (no need to purify PCR product)
- Blue/white screening
- T7/SP6 dual opposed promotors for in vitro transcription
- Flanking pUC/M13 primer binding sites for sequencing
- Flanking *EcoRI* and *Not*I recognition sites for single enzyme digestion
- Filamentous phage f1 origin of replication

GC05.0010	10 rxn
GC05.0020	20 rxn

- **pGRS TA Easy cloning vector**
- **T4 DNA Ligase**
- **T4 DNA Ligase Buffer (10x)**
- **PEG 6000 (10x)**
- **Control Insert (600bp)**



Antibiotics

High purity antibiotics, used in a wide range of molecular biology experiments, including cloning experiments.

Ampicillin (sodium salt)	GAB03.0005	5 g
Kanamycin (sulphate)	GAB04.0005	5 g
Chloramphenicol	GAB05.0005	5 g
Carbenicillin (disodium salt)	GAB06.0005	5 g
Tetracycline (hydrochloride)	GAB07.0005	5 g
Gentamycin (sulphate)	GAB08.0005	5 g

Miscelaneous

Common reagents and enzymes regularly used in cloning experiments.

T4 DNA Ligase **(5U/µL)**	GC03.1000	1000 U
IPTG **(max 5ppm dioxane)**	GAB01.0005	5 g
X-Gal **(>99% purity)**	GAB02.0001	1 g
	GAB02.0005	5 g

Culture Media

Auto-Induction Media

Media Components

Standard Media

06

Auto-Induction Media

Dehydrated powders, supplemented with glucose and alpha lactose for the auto induction of protein expression under the control of IPTG-inducible promoters in *E.coli*.

No cell density monitoring needed | Automatic induction of protein expression.

LB Broth (AIM)	GCM17.0500	500 g
2x YT Broth (AIM)	GCM18.0500	500 g
Terrific Broth (AIM)	GCM19.0500	500 g
Super Broth (AIM)	GCM20.0500	500 g

Media Components

Components for the preparation of commonly used culture media in molecular biology applications.

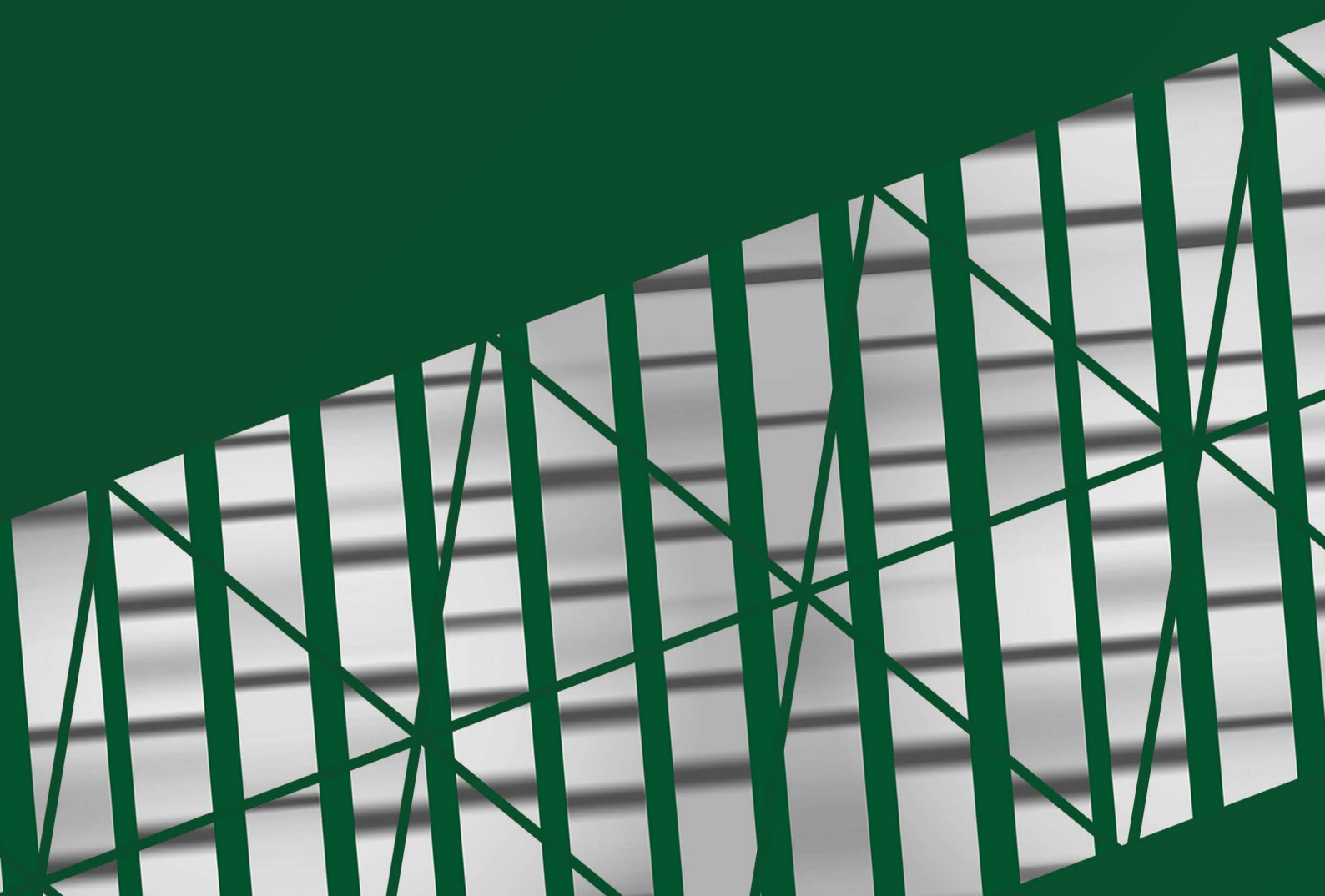
Peptone	GCM21.0500	500 g
Bacteriological Peptone	GCM22.0500	500 g
Tryptone	GCM23.0500	500 g
Yeast Extract	GCM24.0500	500 g
Bacteriological Agar	GCM25.0500	500 g
Dextrose	GCM26.0500	500 g
Sucrose	GCM27.0500	500 g

Standard Media

Dehydrated powder for the preparation of broth or agar plates, for the growth of bacteria or yeast in molecular biology applications

LB Agar (Lennox)	GCM01.0500	500 g
LB Broth (Lennox)	GCM02.0500	500 g
Luria Agar (Miller's LB Agar)	GCM03.0500	500 g
Luria Broth (Miller's LB Broth)	GCM04.0500	500 g
Luria Agar (Miller's Modification)	GCM05.0500	500 g
Luria Broth (Miller's Modification)	GCM06.0500	500 g
Terrific Broth	GCM07.0500	500 g
Modified Terrific Broth	GCM08.0500	500 g
2x YT Medium	GCM09.0500	500 g
2x YT Agar	GCM10.0500	500 g
SOB Medium	GCM11.0500	500 g
SOC Medium	GCM12.0500	500 g
YPD Broth	GCM13.0500	500 g
YPD Agar	GCM14.0500	500 g
YNB without amino acids and without ammonium sulphate	GCM15.0500	500 g
YNB without amino acids and with ammonium sulphate	GCM16.0500	500 g

Protein Research



Protein Electrophoresis

Staining & Stripping

Protein Markers

07

Protein Electrophoresis

High purity solutions and reagents for the preparation of polyacrylamide gels for protein electrophoresis.

Acrylamide/Bisacrylamide Solution 30% (19:1)	GB16.3019	500 mL
Acrylamide/Bisacrylamide Solution 30% (29:1)	GB16.3029	500 mL
Acrylamide/Bisacrylamide Solution 30% (37.5:1)	GB16.3037	500 mL
Acrylamide/Bisacrylamide Solution 40% (19:1)	GB16.4019	500 mL
Acrylamide/Bisacrylamide Solution 40% (29:1)	GB16.4029	500 mL
Acrylamide/Bisacrylamide Solution 40% (37.5:1)	GB16.4037	500 mL
NEW **APS** (Ammonium Persulphate)	GS20.0025	25 g
NEW **TEMED**	GS21.0025	25 mL

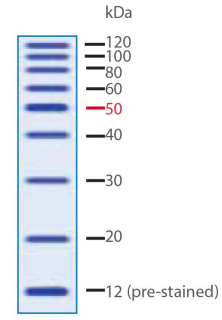
Staining & Stripping

High purity solutions for protein electrophoresis staining and stripping applications.

GRS Stripping Solution	GB20.0500	500 mL
Ponceau S Solution	GB21.0500	500 mL
NEW **Coomassie Brilliant Blue**	GS22.1000	1 L
NEW **Xpert Safe Protein Stain** (safe, ready-to-use, with low background)	GS23.1000	1 L

Protein Markers

Set of unstainded and prestained ready-to-use protein markers for SDS-PAGE and Western Blotting.
Recommended loading: 3-5 µL for protein electrophoresis.



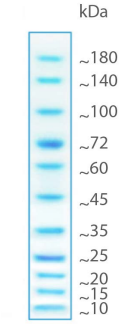
Tris-Glycine
12%

GRS Unstained Protein Marker

Ready-to-use unstained protein standard suitable for size determination of proteins.

Contains one pre-stained protein, which co-migrates with proteins at ~12kDA.

GLP10.0500	500 µL
GLP10.3500	3x 500 µL

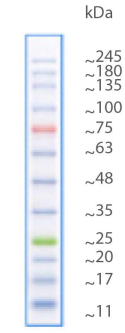


Tris-Glycine
10%

GRS Protein Marker Blue

Ready-to-use blue protein standard suitable for monitoring protein separation during SDS-PAGE, size determination of proteins, and verification of transfer efficiency of Western Blotting.

GLP02.0500	500 µL
GLP02.3500	3x 500 µL

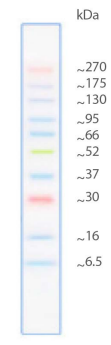


Tris-Glycine
4 - 20%

GRS Protein Ladder MultiColour

Ready-to-use three-colour protein standard suitable for monitoring protein separation during SDS-PAGE, size determination of proteins, and verification of transfer efficiency of Western Blotting.

GLP01.0500	500 µL
GLP01.3500	3x 500 µL



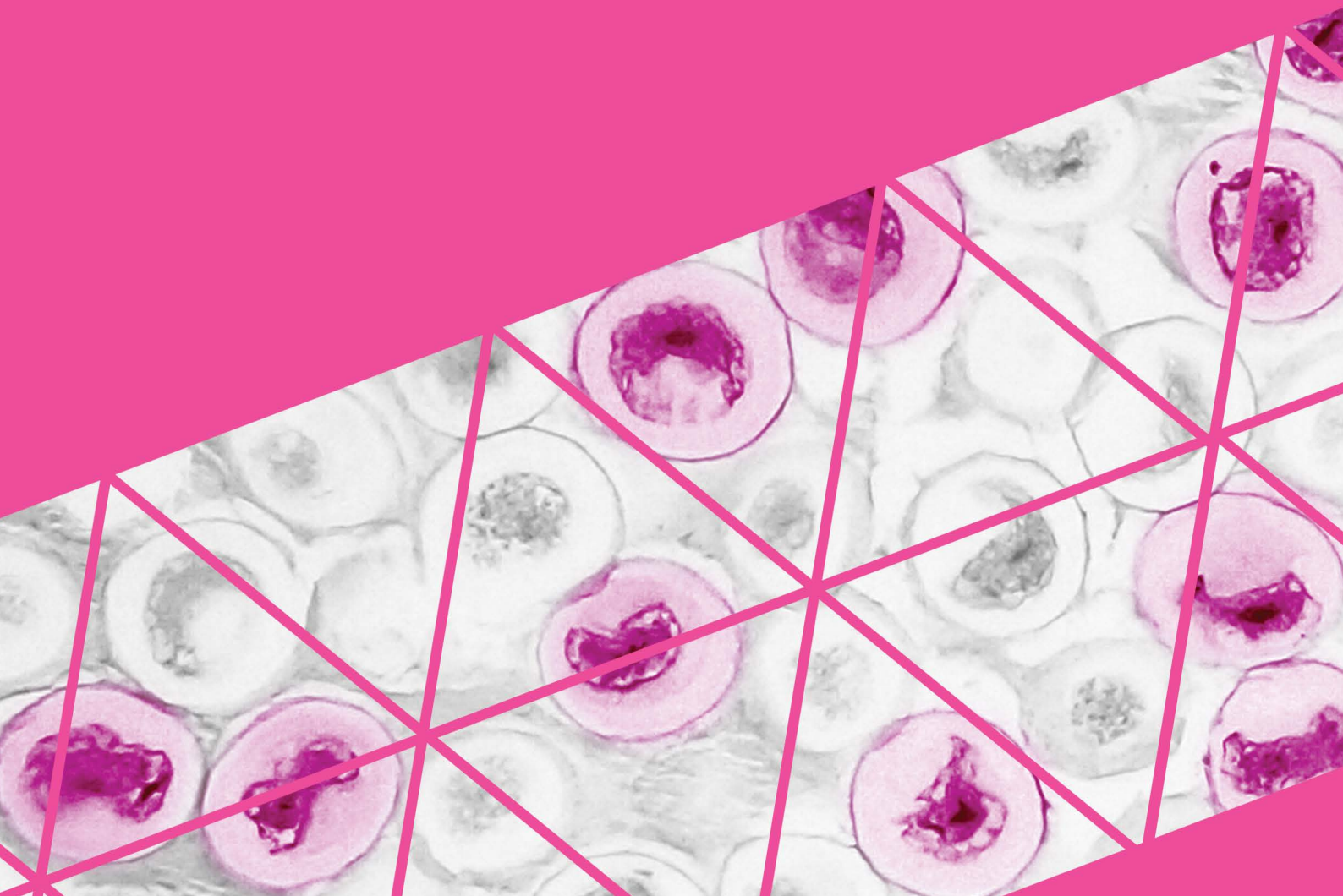
Tris-Glycine
4 - 20%

GRS Protein Ladder MultiColour PLUS

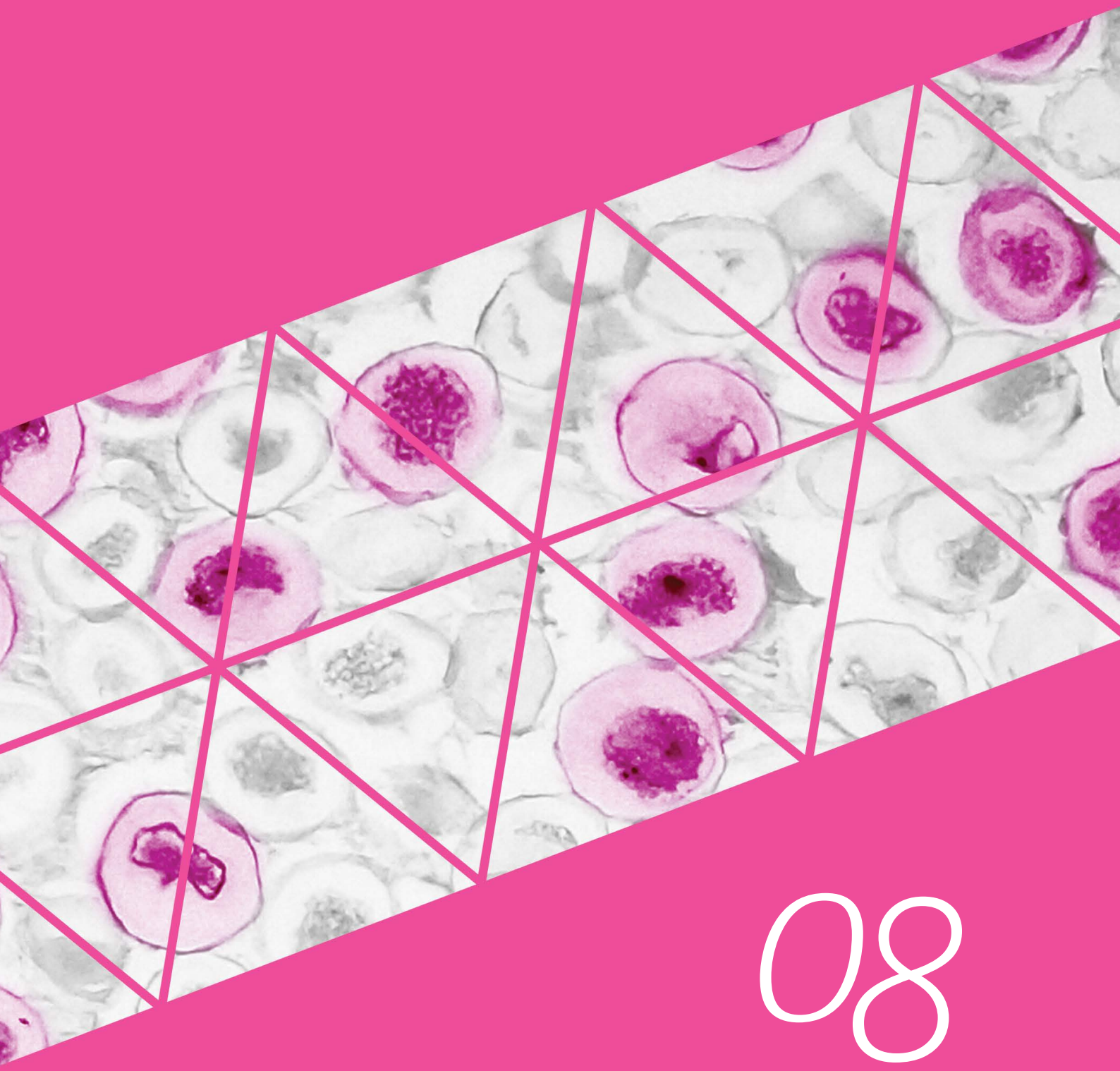
Ready-to-use three-colour protein standard suitable for monitoring protein separation during SDS-PAGE, size determination of proteins, and verification of transfer efficiency of Western Blotting.

GLP03.0500	500 µL
GLP03.3500	3x 500 µL

Cell Biology



Cell Detachment
Fetal Bovine Serum
Transfection
Supplements
Antibiotics



08

Cell Detachment

Solutions for detachment of cells in cell culture applications. From the most common Trypsin, to the new and advantageous Accutase.

Accutase **(less toxic and more gentle then trypsin, but just as effective. Works extremely well on embryonic and neuronal stem cells)**	GTC01.0100	100 mL
Trypsin-EDTA (0.05%) in DPBS (1X)	GTC02.0100	100 mL
Trypsin-EDTA (0.5%) in DPBS (10X)	GTC06.0100	100 mL

Fetal Bovine Serum

Comprehensive mix of serum proteins, amino acids, growth factors, and hormones, obtained after coagulation of whole blood and removing cellular components.

FBS **(origin S.America)**	GTC08.0100	100 mL
FBS (Heat Inactivated) **(origin S.America)**	GTC09.0100	100 mL

Transfection

Solution used in the selection and maintenance of eukaryotic cells, stably transfected with neomycin resistance genes.

G-418 Sulphate Solution **(50mg/ml)**	GTC12.0010	10 mL

Supplements

Solutions commonly used as supplements in Cell Culture applications.

L-Glutamine (200mM)	GTC03.0100	100 mL
Stable L-Glutamine (200mM)	GTC04.0100	100 mL
Hybridoma Supplement (Serum-free)	GTC07.0050	50 mL

Antibiotics

The most widely used antibiotics, for Cell Culture applications, including a very useful mycoplasma removal reagent.

Penicillin-Streptomycin (100x)	GTC05.0100	100 mL
Antibiotic - antimycotic Solution (100x)	GTC10.0100	100 mL
Mycoplasma Removal Reagent (50x)	GTC11.0100	100 mL

Solutions

Wide range of solutions, commonly used for molecular biology applications.

TAE Buffer (10X)	GB11.0110	1 L
	GB11.0510	5 L
TBE Buffer (10X)	GB12.0110	1 L
	GB12.0510	5 L
TG Buffer (10X)	GB13.0110	1 L
	GB13.0510	5 L
TGS Buffer (10X)	GB15.0110	1 L
	GB15.0510	5 L
SDS Solution 10%	GB14.0110	1 L
SDS Solution 20%	GB14.0120	1 L
NEW PBS (20x)	GS10.0120	1 L
NEW PBS (10X) sterile	GS11.0110	1 L
NEW PBST (10X)	GS12.0110	1 L
NEW TBS (10X) sterile	GS13.0110	1 L
NEW HEPES (1M) pH 7.3 sterile	GS14.0110	1 L
NEW MOPS (10X) pH 7.0	GS15.0110	1 L
NEW SSC (20X) sterile	GS16.0120	1 L
NEW SSPE (20X) pH 7.4	GS17.0120	1 L
NEW TPE (10X)	GS18.0110	1 L
NEW Tris-Taurine (20X)	GS19.0120	1 L

Whenever you need a solution, GRiSP is the solution

GRiSP Custom Solutions

GRiSP produces on-demand, high-quality solutions, adjusted to your needs. Just contact us for a quotation, indicating as much details as possible: Volume, Concentration, Composition, pH, package type (transparent or amber, Bag-in-Box, etc), Molecular Biology Grade or other, Sterile or not, amount needed, etc.

For information and quotations, please contact us via info@grisp.pt

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