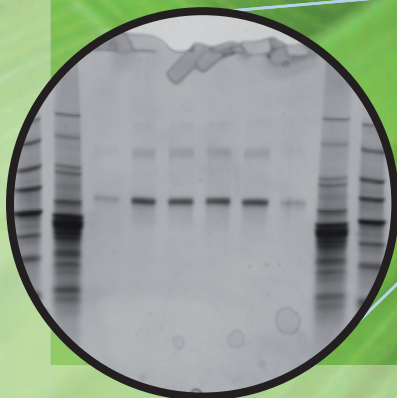


NBS  
Biologicals



Product  
Catalogue

LIFE SCIENCE



2014



Genomics

Proteomics

Cell Biology

Cell Culture

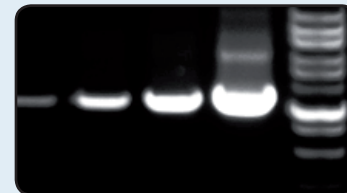
Separation

## New Products for 2014

### SafeView/BesTaq PCR Mastermix

The new ready-to-use mixture featuring high fidelity BesTaq DNA Polymerase together with SafeView staining technology.

----- Page 10



### TRI-isolate RNA Reagent

Simple, reliable and rapid RNA isolation from a wide variety of sample sources.

----- Page 17

### Destaining Bags (for EtBr)

Easily remove Ethidium Bromide (and other dyes) from solution in an overnight treatment.

----- Page 5



### Theliokeep Cell Preservation

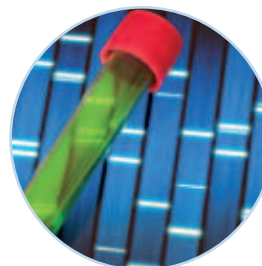
Serum-free and DMSO-free medium for preserving tissue at 4°C for 1 - 2 weeks.

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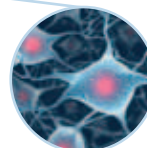


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Genomics

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Cell Biology

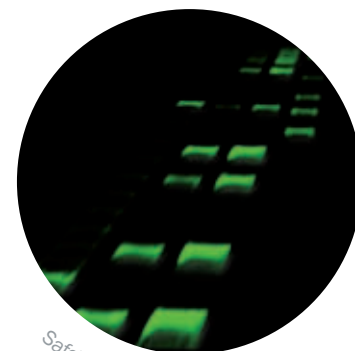
Cell Culture

Separation

# SafeView DNA Stain

*The Safe Alternative to Ethidium Bromide*

- ✓ Non-carcinogenic DNA/RNA Stain
- ✓ Used in the Same Way as Ethidium Bromide
- ✓ Compatible with Standard Molecular Biology Applications



SafeView visualised using  
optional green filter

SafeView is a safe nucleic acid stain for the detection of dsDNA, ssDNA and RNA in agarose gel. This dye replaces Ethidium Bromide (toxic, potential mutagen) commonly used in agarose gel electrophoresis.

## Safe to Use

SafeView is non-carcinogenic and causes significantly fewer mutations in the Ames test. SafeView also tests negative in both the mouse marrow chromophilous erythrocyte micronucleus test and mouse spermary spermatocyte chromosomal aberration test.

## Sensitive & Convenient

SafeView emits green fluorescence when bound to dsDNA, ssDNA and RNA and has a fluorescence excitation maxima when bound to nucleic acid at approx.290-320nm, emitting at 490nm.

*Also Available*

### SafeWhite DNA Stain

**DNA Stain incorporated into loading buffer**

SafeWhite Utilises the same technology as SafeView but in the form of a convenient 6x ready-to-use loading buffer!

**63%**  
**cheaper**

than Invitrogen Sybr®Safe stain\*

### Ordering Information

Cat #	Description	Pack Size	Price
NBS-SV1	SafeView DNA Stain	1ml	£42.00
NBS-SV5	SafeView DNA Stain	5 x 1ml	£179.00
NBS-SW1	SafeWhite DNA Stain	1ml	£42.00
NBS-SW5	SafeWhite DNA Stain	5 x 1ml	£179.00

\* Invitrogen Sybr®Safe DNA gel stain (400µl), £46.48 - [www.invitrogen.com](http://www.invitrogen.com), 13/01/2014.

# Destaining Bags

## Easy Removal of Ethidium Bromide from Solution

- ✓ Remove upto 5µg of Ethidium Bromide in an Overnight Treatment
- ✓ Can also be used for other Biological Dyes, eg. Coomassie Blue
- ✓ Easy Disposal of used Bag with Routine Biological Waste

Introducing our new silica based destaining bag. These bags will selectively remove Ethidium Bromide and Coomassie Blue from solution in an overnight treatment, thus eliminating the need to dispose of electrophoresis buffers as hazardous waste. The specially optimised absorbent mixture retains the dye in the bag for removal and incineration.

## Ethidium Bromide

### Ethidium Bromide, Dropper Bottle

Our Ethidium Bromide is provided in a ready-to-use dropper bottle (0.625mg/ml) for maximum convenience and safety. Use one drop per 50ml of agarose gel and running buffer or staining solution.



#### Ordering Information

Cat #	Description	Pack Size	Price
NBS-DS25	EtBr Destaining Bags	25 Bags	£57.00
NBS-DB05	Ethidium Bromide, Dropper Bottle (0.625mg/ml)	5ml	£19.00
NBS-DB10	Ethidium Bromide, Dropper Bottle (0.625mg/ml)	10ml	£31.00

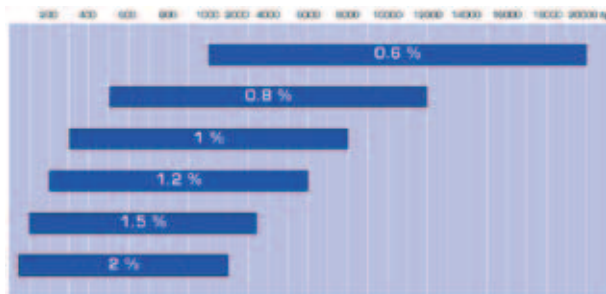
# Agarose - Low EEO

*All-Purpose Agarose for Electrophoresis*

- ✓ Low EEO (<0.13)
- ✓ High Mechanical Strength
- ✓ Low Absorption of Staining Reagents

Agarose - *Low EEO* is an all-purpose agarose designed for nucleic acid analytical work, blotting and routine applications. This agarose has a low EEO allowing for shorter electrophoretic runs without compromising resolution, while the gel has a high mechanical resistance for easier and more reliable handling.

Agarose - *Low EEO* has low absorption of staining agents and high thermal stability due to high hysteresis (difference between gelling and melting temperatures), it also has excellent transparency of the gel, high visibility and exhibits low DNA binding and gel background.



Left: Separation Range Chart for Agarose - Low EEO  
Separation ranges depend on the choice of buffer. These ranges were determined in presence of TAE buffer. Migration in TBE buffer is slower, therefore lower concentrations can be used to obtain similar ranges.

**58%**  
**Cheaper**  
than Lonza SeaKem® LE Agarose\*

## Top Tip

Agarose - *Low EEO* has a gel strength of >2500 when used at 1.5% concentration and can therefore be used in place of a speciality high strength agarose!

## Ordering Information

Cat #	Description	Pack Size	Price
NBS-AG100	Agarose - <i>Low EEO</i>	100g	£46.00
NBS-AG500	Agarose - <i>Low EEO</i>	500g	£171.00

\* Lonza Seakem® LE Agarose (100g), £110.00 - [www.scientificlabs.co.uk](http://www.scientificlabs.co.uk) (UK Distributor), 13/01/2014.

# Agarose - High Resolution

## High Resolution Agarose for Small Fragments

- ✓ Maximum Resolution of Small DNA Fragments and PCR Products
- ✓ Improved Clarity of the Gel, Enhancing Visibility
- ✓ High Gel Strength - Allows Use in Blotting

Agarose - *High Resolution* is a molecular screening agarose that offers fine resolution of small nucleic acid fragments and PCR products. This agarose offers better handling than comparable products because of a stronger gel structure and higher gel strength - therefore the chances of a gel breaking or cracking when handled is greatly minimised, even with lower gel concentrations. Agarose - *High Resolution* is nuclease free and exhibits low DNA binding and gel background.

# Agarose - Low Melting

## High Sieving Agarose for Low Melt Applications

Agarose - *Low Melting* is a low melting temperature agarose suitable for preparative electrophoresis and the analysis/recovery of small DNA fragments for downstream applications.

This agarose is GQT (Genetic Quality Tested) certified ensuring that in-gel applications can be performed in remelted agarose, avoiding difficult DNA extraction steps. It is also suitable for digestion by agarase enzymes, making it very easy to recover small DNA fragments for cloning or enzymatic processing.

Agarose - *Low Melting* is nuclease free and exhibits low gel background.

- ✓ High Sieving Capacity
- ✓ Suitable for In-Gel Applications

Designed for:

Preparative electrophoresis  
Electrophoresis of DNA fragments < 1000bp  
In-Gel enzymatic processing (digestion, ligation, PCR)  
Analysis and recovery of small DNA fragments for further applications

### Ordering Information

Cat #	Description	Pack Size	Price
NBS-HR100	Agarose - High Resolution	25g	£59.00
NBS-LM100	Agarose - Low Melting	25g	£64.00

# Agarose Electrophoresis Buffers

## TBE (TRIS-Borate-EDTA) Buffer

- ✓ High Ionic Strength
- ✓ High Buffering Capacity

Tris-Borate EDTA (TBE) is used both in PAGE and agarose gel electrophoresis for DNA and proteins. Our TBE is supplied as 10x concentrate (dilute to strength) and is used within the gel and as a running buffer. We also have TBE buffer available as a premixed powder for added convenience.

## TAE (TRIS-Acetate-EDTA) Buffer

- ✓ Low Ionic Strength
- ✓ Better Resolution of Large DNA Fragments

Tris-Acetate EDTA (TAE) is used as a running buffer in both PAGE and agarose electrophoresis. Our TAE is supplied as 25x and 50x concentrates which are diluted to working strength. We also have TAE buffer available as a premixed powder for added convenience.

### Ordering Information

<i>Cat #</i>	<i>Description</i>	<i>Pack Size</i>	<i>Price</i>
A0014-1PK(4L)	TBE Buffer, 10x Premixed Powder	1pk (4L)	£28.00
NBS-6000-10	TBE Buffer, 10x Solution	1L	£28.00
NBS-6000-50	TBE Buffer, 10x Solution	5L	£64.00
TB8898-1PK	TAE Buffer, 25x Premixed Powder	1pk (1L)	£33.00
NBS-6001-10	TAE Buffer, 50x Solution	1L	£41.00
NBS-6001-50	TAE Buffer, 50x Solution	5L	£108.00

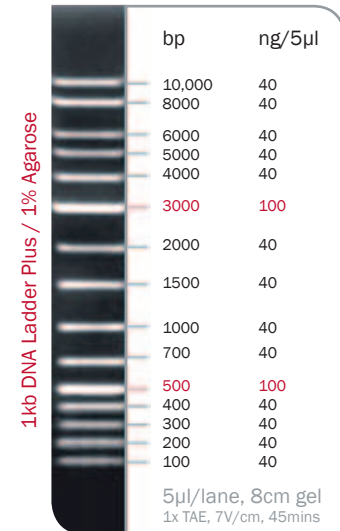


# DNA Ladder Plus

Ready-to-Use Ladders for Electrophoresis

- ✓ Bright, Sharp Bands for Accurate Sizing
- ✓ Precise DNA Concentrations
- ✓ Ready-to-Use

Introducing our new range of ready to use DNA ladders for electrophoresis. These extended range ladders are available in 50bp, 100bp and 1kb size and offer precise standard and bright reference bands. All fragments are precisely mixed and quantified during production and the ladders are supplied premixed with loading dye.



50bp ..... 10,000 bp

## Ladder Size Ranges

50bp Ladder Plus	50 - 1000bp
100bp Ladder Plus	100 - 3000bp
1kb Ladder Plus	100 - 10,000bp

## Ordering Information

Cat #	Description	Pack Size	Price
NBS-LP50	DNA Ladder Plus, 50bp	50µg	£30.00
NBS-LP100	DNA Ladder Plus, 100bp	50ug	£30.00
NBS-LP1K	DNA Ladder Plus, 1kb	50ug	£30.00

# SafeView/BesTaq Mastermix

*Convenient All-in-One PCR Mastermix*

- ✓ Everything you Need for PCR and Instant Visualisation in a Single Solution
- ✓ Incorporates High Fidelity Polymerase and Safe DNA Stain

SafeView/Bestaq 2X PCR MasterMix is a ready-to-use mixture containing BesTaq DNA Polymerase (page 11), deoxynucleotides, and reaction buffer in a 2X concentration. It contains all the necessary reagents for amplification of DNA along with an inert blue (loading) dye, proprietary SafeView reagent (page 4), a stabiliser which allows for direct loading of the final products onto an ethidium-bromide-free gel for analysis and a Safe Marker Stain which is added to your molecular weight markers for visualisation.

## Safe Visualisation

SafeView is proven to be non-carcinogenic by the Ames-test. The results are negative in both the mouse marrow chromophilous erythrocyte micronucleus and mouse spermary spermatocyte chromosomal aberration tests.

## High Fidelity Taq Polymerase

BesTaq, with its superior fidelity and extreme robustness, is one of the best performing DNA polymerases available on the market. With its monomeric, unique topological structure, BesTaq DNA Polymerase possesses enhanced processivity, elevated yield, boosted speed, extended amplification length, and improved difficult template tolerance. This high-performing polymerase and its mastermix are the ideal choice for any PCR application, especially for cloning difficult templates, amplifying A/T- and G/C- rich sequences, and replicating long amplicons. With over 50X more accuracy than Taq DNA polymerase, BesTaq DNA Polymerase and its mastermix can consolidate all PCR protocols and reactions into one simple, efficient, and extremely reliable PCR system. BesTaq DNA Polymerase generates blunt-end PCR products and has both 5'-3' polymerase activity as well as 3'-5' proofreading exonuclease activity.

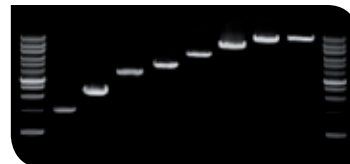
### Ordering Information

<i>Cat #</i>	<i>Description</i>	<i>Pack Size</i>	<i>Price</i>
NBS-SMM	SafeView/BesTaq PCR Mastermix	200 rxn	£199.00

# PCR/Amplification Products

## BesTaq DNA Polymerase

BesTaq DNA polymerase is a newly engineered polymerase with superior fidelity and robustness. The unique, single-enzyme structure is optimised for difficult templates and results in enhanced yield, speed and amplification length.



BesTaq is designed for all PCR applications and particularly suited for cloning difficult (both AT- and GC-rich) and long amplicons. It has one of the highest fidelities available on the market (over 50X better than Taq DNA polymerase) and will generate blunt-end products with 5'-3' polymerase activity and 3'-5' proofreading exonuclease activity.

## dNTPs

Our high quality dNTPs (mixtures and sets) are free of DNase and RNase contamination as determined by incubation of the 4 dNTP's with radioactive substrates.

The purity of the dNTPs are determined by HPLC with the minimum passing specification for the triphosphate content being 99%, all lots are performance tested with Sequenase, Taq DNA polymerase, pfu DNA polymerase and T7 DNA polymerase.

### Ordering Information

Cat #	Description	Pack Size	Price
NBS-BT10	BesTaq DNA Polymerase	250U	£93.00
NBS-BT40	BesTaq DNA Polymerase	1000U	£315.00
DD0056	dNTP Mixture (10mM)	0.5ml	£25.00
DD0057	dNTP Mixture (25mM)	0.5ml	£28.00
DD0058	dNTP Set (100mM each)	4x0.1ml	£34.00
DD0059	dNTP Set (100mM each)	4x0.5ml	£145.00
DB2226	dNTP/dUTP Mixture	1ml	£25.00
MB1193-4X1.5ML	MgCl <sub>2</sub> , 25mM	4x1.5ml	£25.00

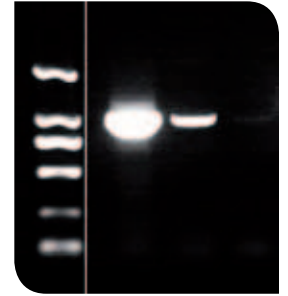
Also Available

**Spin Column PCR Purification Kit**  
see page 14

High yield DNA Spin Column kit,  
competitively priced and ready-to-use!

# EasyScript RTase

## Optimised Reverse Transcriptase Enzyme



- ✓ Reliable - Will work for any cDNA synthesis application
- ✓ Flexible - Suitable for both total RNA or poly(A) + RNA templates
- ✓ High Yield - Superior to competitor RNase enzymes

EasyScript RTase is derived through a series of rational and iterative 'mutation - function' optimisations and represents a much superior version of the native RTase enzyme. Deliberate mutations within the RNase H domain of EasyScript mediate abrogation of the RNase H activity associated with the enzyme. Removal of RNase H activity helps to prevent RNA degradation during first strand cDNA synthesis thereby allowing maximal performance in cDNA synthesis.

### EasyScript Plus

EasyScript is also available in 'plus' form which has been bioengineered to perform optimally at elevated temperatures (50-55°C). EasyScript Plus represents a molecular innovation that offers an easy and reliable one step solution to cDNA synthesis from difficult RNA templates. Employment of a higher than average reaction temperature mitigates the problems associated with secondary structures and high GC content in the starting template. Additionally this feature also allows for synthesis of longer transcripts, in this case, up to 15kb in length.



Above - EasyScript RTase elongation ability

### Ordering Information

Cat #	Description	Pack Size	Price
G232	EasyScript Reverse Transcriptase	100 rxns	£118.00
G237	EasyScript Plus Reverse Transcriptase	100 rxns	£146.00
G234	EasyScript cDNA Synthesis Kit	100 rxns	£124.00
G236	EasyScript Plus cDNA Synthesis Kit	100 rxns	£152.00

# Spin/96-well Purification

DNA Cleanup Kits - Page 14  
 Plasmid & Genomic Kits - Page 15  
 RNA Miniprep & All-in-One Kits - Page 16

## 3 for 2

on all Spin Column & 96-well Kits\*



Our Spin Column and 96-Well Kits have been designed for fast, high quality extraction & purification of DNA, RNA & Protein from a variety of sources.

In addition to our popular DNA Cleanup kits (outlined on page 12) we also have an extensive range of Plasmid & Genomic kits (page 13) and RNA & All-in-One kits (page 14).

Featured  
for  
**2014**

*Spin Column* Genomic DNA Miniprep Kit  
 — Page 15

*Spin Column* All-in-One Miniprep Kit  
 — Page 16

*Spin Column* RNA Miniprep Kit  
 — Page 16

### Ordering Information

Cat #	Description	Pack Size	Price
NBS-5005	Mini Spin Columns (DNA)	100 pcs	£27.00
NBS-5008	Mini Spin Columns (RNA)	100 pcs	£29.00
NBS-5006	96-Well Filter Plates	12 pcs	£41.00

\* Cheapest item free, does not include separate Spin Columns (DNA or RNA) or plates.

## Mini Spin Columns

We now supply spin columns/collection tubes separately, these are compatible with our own range of Spin Column kits as well as those of other brands!

PCR Product  
 Enzymatic Reactions  
 Solubilised Gel Slice  
 Lysed Cells



Bind



Wash



Elute



Pure DNA



Genomics

Proteomics

Cell Biology

Cell Culture

Separation

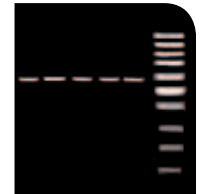
# DNA Cleanup Kits

## 3 for 2

on all Spin Column & 96-well Kits\*

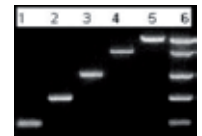
## PCR Purification Kit

This kit utilises membrane technology which selectively adsorbs up to 10µg PCR products or DNA fragments in the presence of a specialised binding buffer. Primers (<40-mer), nucleotides, enzymes, mineral oil and all other impurities are not able to bind and are hence eliminated from the column. PCR products or DNA fragments are readily eluted in the included buffer.



## Gel Extraction Kit

This kit provides a simple and efficient method for DNA extraction from agarose gel. It is also an ideal tool to desalt the solution as well as to remove residual organic solvents or unincorporated nucleotides or primers (<40-mer) from reaction mixture containing DNA.



## Reaction Cleanup Kit

This DNA Cleanup kit provides a simple, efficient method for purification of DNA fragments from various enzymatic reactions (eg. cDNA synthesis, ligation, restriction digestions, tailing etc.). It is also an ideal tool to desalt the solution of DNA as well as to remove residual organic solvents or unincorporated nucleotides or primers (<40-mer) from reaction mixture.



### Ordering Information

Cat #	Description	Pack Size	Price	Cat #	Description	Pack Size	Price
NBS-363	Spin Column PCR Purification Kit	50 preps	£62.00	NBS-3652	96-Well PCR Purification Kit	2 plates	£221.00
NBS-664	Spin Column PCR Purification Kit	250 preps	£269.00	NBS-365	96-Well PCR Purification Kit	5 plates	£442.00
NBS-353	Spin Column Gel Extraction Kit	50 preps	£62.00	NBS-3692	96 Well Reaction Cleanup Kit	2 plates	£221.00
NBS-654	Spin Column Gel Extraction Kit	250 preps	£269.00	NBS-369	96 Well Reaction Cleanup Kit	5 plates	£442.00
NBS-367	Spin Column Reaction Cleanup Kit	50 preps	£62.00				
NBS-668	Spin Column Reaction Cleanup Kit	250 preps	£269.00				

See Page 15 for Plasmid and Genomic DNA Kits and Page 14 for our All-in-One Kit.

\* Cheapest item free, does not include separate Spin Columns (DNA or RNA) or plates.

Genomics

Proteomics

Cell Biology

Cell Culture

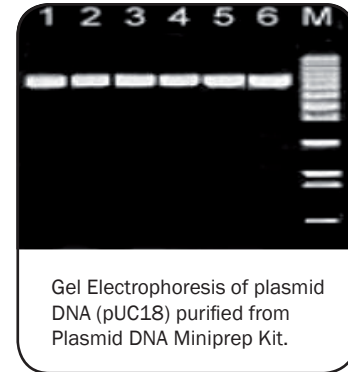
Separation

# DNA Plasmid/Genomic Kits

## Plasmid DNA Miniprep Kit

*Fast and Simple Preparation of high quality DNA*

This kit provides a simple and efficient method for mini plasmid DNA purification from bacterial culture. Plasmid DNA is selectively adsorbed by the spin column and impurities such as proteins, salts and nucleotides are washed away. The whole procedure takes about 12 minutes and no phenol/chloroform or ethanol precipitations are required.



## Genomic DNA Miniprep Kit

*Purification of gDNA from Multiple Sample Sources*

This kit allows for the purification of high quality genomic DNA with a molecular weight >20kb. The spin columns provide a fast and easy purification with the purified DNA ideally prepared for standard downstream reactions, including PCR, restriction digestions and hybridisations.

**3 for 2**

on all Spin Column & 96-well Kits\*

Cat #	Description	Pack Size	Price
NBS-413	Spin Column Plasmid DNA Miniprep Kit	50 preps	£62.00
NBS-614	Spin Column Plasmid DNA Miniprep Kit	250 preps	£269.00
NBS-88503	Spin Column Genomic DNA Miniprep Kit	50 preps	£156.00
NBS-88505	Spin Column Genomic DNA Miniprep Kit	250 preps	£622.00
NBS-4152	96 Well Plasmid DNA Miniprep Kit	2 plates	£221.00
NBS-415	96 Well Plasmid DNA Miniprep Kit	5 plates	£442.00
NBS-1292	96 Well Bacterial Genomic DNA Miniprep Kit	2 Plates	£269.00
NBS-1295	96 Well Bacterial Genomic DNA Miniprep Kit	5 Plates	£615.00

\* Cheapest item free, does not include separate Spin Columns (DNA or RNA) or plates.

Genomics

Proteomics

Cell Biology

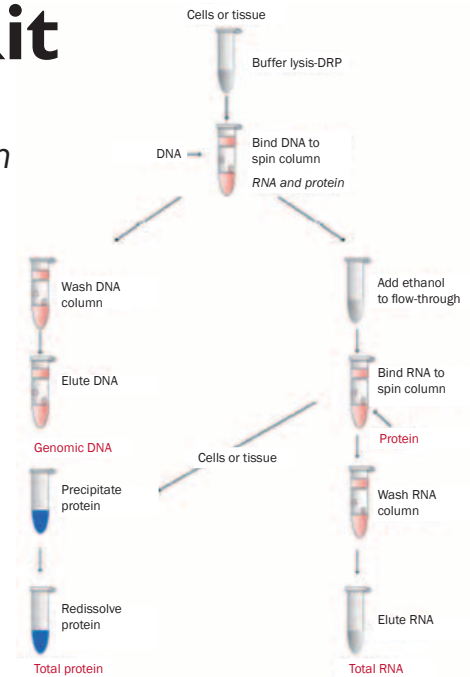
Cell Culture

Separation

# All-in-One Miniprep Kit

- ✓ *All-in-One Purification of DNA, RNA and Protein from One Sample*

The *Spin Column All-in-One Miniprep Kit* allows you to simultaneously isolate DNA, RNA and Protein from a single sample. Purification is achieved within 1 hour and all standard downstream applications are supported.



*Simple & Efficient RNA Extraction from Bacterial Culture*

## RNA Miniprep Kit

- ✓ High Yield & Reproducibility
- ✓ Purification in Under 30 mins

Our *Spin Column RNA Miniprep Kit* allows for high quality purification of RNA from animal cells and tissues. The gDNA eliminator column allows DNA contamination to be eliminated during RNA purification so the purified RNA is ideally prepared for downstream applications that require little to no DNA contamination (eg. Real time PCR).

**3 for 2**  
on all Spin Column & 96-well Kits\*

### Ordering Information

Cat #	Description	Pack Size	Price
NBS-88003	Spin Column All-in-One Miniprep Kit	50 preps	£186.00
NBS-88203	Spin Column DNA/RNA Miniprep Kit	50 preps	£168.00
NBS-88133	Spin Column RNA Miniprep Kit	50 preps	£186.00
NBS-88136	Spin Column RNA Miniprep Kit	250 preps	£742.00

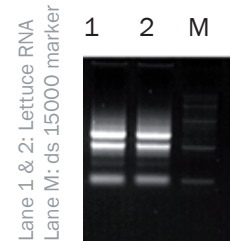
\* Cheapest item free, does not include separate Spin Columns (DNA or RNA) or plates.



# TRI-isolate RNA Reagent

*Isolation of Total RNA from a Variety of Sources*

- ✓ Simple, Reliable and Rapid RNA Isolation
- ✓ Isolation from a Wide Variety of Sources
- ✓ Stable Yield (RNA Integrity Maintained)



Extraction of RNA from lettuce using TRI-isolate

The TRI-isolate RNA Purification Kit provides a simple, reliable, and rapid method for isolating high-quality total RNA from a wide variety of sample sources, including animal and plant cells and tissue, bacteria, and yeast. The kit utilises the strong lysis capability of TRI-isolate Reagent, this maintains the integrity of the RNA, while disrupting cells and dissolving cell components.

## How does the reagent work?

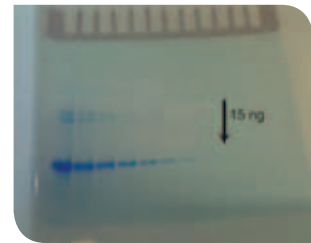
The addition of chloroform followed by centrifugation, separates the solution into an aqueous phase and an organic phase. RNA remains exclusively in the aqueous phase. After transfer of the aqueous phase, the RNA is recovered by precipitation with isopropyl alcohol. After removal of the aqueous phase, the DNA and proteins in the sample can be recovered by sequential precipitation. Precipitation with ethanol yields DNA from the interphase, and an additional precipitation with isopropyl alcohol yields proteins from the organic phase. Copurification of the DNA may be useful for normalising RNA yields from sample to sample. Total RNA isolated by TRI-isolate Reagent is free of protein and DNA contamination. It can be used for Northern blot analysis, dot blot hybridisation, poly (A)<sup>+</sup> selection, in vitro translation, RNase protection assay, and molecular cloning.

### Ordering Information

Cat #	Description	Pack Size	Price
NBS-TRI	TRI-isolate RNA Reagent	100ml	£145.00

# SafeBLUE Protein Stain

*Safe, Single Step Protein Stain*



- ✓ The Most Sensitive Single Step Stain Available!
- ✓ No Mixing, Fixing, Washing or Destaining Required
- ✓ Compatible with Mass Spectrometry

SafeBLUE is a safe and highly sensitive single step protein stain. Simply run your protein gel, add the stain and watch your bands appear in a few minutes. There is no need to wash or destain and the background is crystal clear.

## Protocol

1: Run Gel

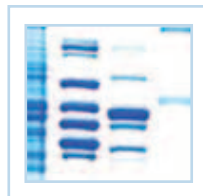


2: Add SafeBLUE\*



10 mins\*\*

3: Remove Gel from Stain



\* Use just enough to cover gel (typically around 20ml)

\*\* Takes 10-15mins to see 60ng, longer for low conc. proteins

## Results in 10 Minutes....

Staining of low concentration proteins (60ng) occurs inside of 15 minutes with sensitivity increasing down to 10ng if left for an hour. The signal generated by SafeBLUE is linear, enabling true quantification of your sample. It is impossible to over-saturate using SafeBLUE, so if preferred you can incubate overnight without harmful effects.

SafeBLUE contains doesn't contain any harmful chemicals or acids, so is much safer than standard protein dyes - it can even be disposed of down the sink after staining!

### The Safe Protein Stain

SafeBLUE is completely non-toxic and can be safely disposed of down the sink.

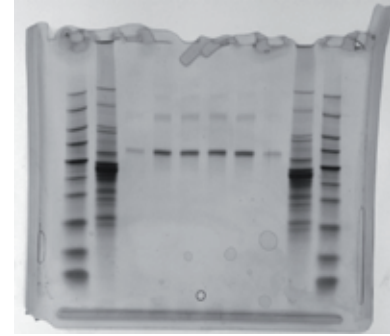
### Ordering Information

Cat #	Description	Pack Size	Price
NBS-SB1L	SafeBLUE Protein Stain	1L	£99.00
NBS-SB10L	SafeBLUE Protein Stain	10L	£720.00

# ReadyCast Protein Gels

## High Performance Precast Protein Gels

- ✓ 2 Year Shelf Life
- ✓ Gels Individually Wrapped
- ✓ Custom Gel Concentrations Available



ReadyCast gels provide the highest performance precast protein gels available with superior resolution for nearly all apparatus. They are available in both fixed concentration and gradient gel form.

### The Gel

ReadyCast gels are individually wrapped and have a shelf life of two years at 4°C or six months at room temperature. The gels offer superior resolution compared to rival products and are compatible with standard wet blot equipment and also sem-dry blot transfer. Automated filling ensures complete reproducibility between batches.

### The Cassette

Our cassettes use a thicker plastic to ensure a better fit with gel tanks, and don't require the use of adaptors. The cassettes are also easier to open and come without a name plate (which could otherwise catch on the pipette tip).

Custom Gel Concentrations  
available at no extra charge!

#### Ordering Information

Cat #	Description	Pack Size	Price
NBS-RC	ReadyCast Protein Gel - Custom Conc., 10 well	10 gels (10x10cm)	£87.00
NBS-R12A-G	ReadyCast Protein Gradient Gel (4-12%), 10 well	10 gels (10x10cm)	£87.00
NBS-R12B-G	ReadyCast Protein Gradient Gel (4-12%), 15 well	10 gels (10x10cm)	£87.00
NBS-R20A-G	ReadyCast Protein Gradient Gel (4-20%), 10 well	10 gels (10x10cm)	£87.00
NBS-R20B-G	ReadyCast Protein Gradient Gel (4-20%), 15 well	10 gels (10x10cm)	£87.00
NBS-R10A	ReadyCast Protein Gel (10%), 10 well	10 gels (10x10cm)	£87.00
NBS-R10B	ReadyCast Protein Gel (10%), 15 well	10 gels (10x10cm)	£87.00
NBS-R12A	ReadyCast Protein Gel (12%), 10 well	10 gels (10x10cm)	£87.00
NBS-R12B	ReadyCast Protein Gel (12%), 15 well	10 gels (10x10cm)	£87.00
NBS-RC16A	ReadyCast Protein Gel (16%), 10 well	10 gels (10x10cm)	£87.00
NBS-RC16B	ReadyCast Protein Gel (16%), 15 well	10 gels (10x10cm)	£87.00

# Acrylamide Products

*Quality Acrylamides for Crystal Clear Electrophoresis Gels*

- ✓ Batch tested to ensure reproducibility
- ✓ DNase, RNase & Protease free

## Acrylamide, 40% Solution

Our 40% Acrylamide solution is made from ultra-pure components and is 0.45 and 0.2micron filtered.

## Bis-Acrylamide, 2% Solution

Bis-Acrylamide solution is a crosslinker and is used in conjunction with the 40% Acrylamide solution to create a polyacrylamide gel of the required ratio.

## Acryl/Bis Solutions

Our liquid acrylamide solutions are made to exact standards from the highest quality materials, this ensures crystal clear electrophoresis gels for reliable and reproducible results.

Solutions are manufactured using molecular biology grade pyrogen free water and filtered through 0.2 micron glass fibre and nylon filters to eliminate particulate matter.

### Custom Formulations

We can offer a custom gel formulation service offering small batches of liquid acrylamide made to your specification!

### Ordering Information

Cat #	Description	Pack Size	Price
NBS-2000-05	Acrylamide, 40% Solution	500ml	£38.00
NBS-2000-10	Acrylamide, 40% Solution	1L	£56.00
NBS-2500-05	Bis-Acrylamide, 2% Solution	500ml	£21.00
NBS-2500-10	Bis-Acrylamide, 2% Solution	1L	£36.00
NBS-2300-05	Acryl/Bis (19:1), 30% Solution	500ml	£40.00
NBS-2300-10	Acryl/Bis (19:1), 30% Solution	1L	£60.00
NBS-2600-05	Acryl/Bis (29:1), 30% Solution	500ml	£39.00
NBS-2600-10	Acryl/Bis (29:1), 30% Solution	1L	£59.00
NBS-2100-05	Acryl/Bis (37.5:1), 30% Solution	500ml	£42.00
NBS-2100-10	Acryl/Bis (37.5:1), 30% Solution	1L	£69.00
NBS-2400-05	Acryl/Bis (19:1), 40% Solution	500ml	£38.00
NBS-2400-10	Acryl/Bis (19:1), 40% Solution	1L	£59.00
NBS-3500-05	Acryl/Bis (29:1), 40% Solution	500ml	£42.00
NBS-3500-10	Acryl/Bis (29:1), 40% Solution	1L	£61.00
NBS-3600-05	Acryl/Bis (37.5:1), 40% Solution	500ml	£43.00
NBS-3600-10	Acryl/Bis (37.5:1), 40% Solution	1L	£64.00

# Sodium Dodecyl Sulphate

## SDS, 20% Solution

SDS is difficult to weigh due to its hazardous dispersal problems, therefore our SDS is supplied formulated into 20% solution ready for use. The SDS solution is 0.2 micron filtered and made from sterile MB grade water, it is supplied in 500ml quantities however other amounts can be supplied on request. SDS does not need sterilisation.

## SDS-PAGE Buffers

### TG (TRIS-Glycine) Buffer, 10x

TRIS-Glycine (TG) buffer is suitable for protein PAGE and western blotting procedures. Tris-Glycine and Tris-Glycine SDS are the most popular buffers used in the electrophoresis of proteins ranging from 5 to 500Kda. We also have TG buffer available as a premixed powder for added convenience.

### TG-SDS (TRIS-Glycine-SDS) Buffer, 10x

Tris-glycine SDS is used as a running buffer for electrophoresis of proteins in PAGE proteomics studies. We also have TG-SDS buffer available as a premixed powder for added convenience.

#### Ordering Information

Cat #	Description	Pack Size	Price
NBS-4002-05	SDS, 20% Solution	500ml	£45.00
NBS-3000-01	TEMED	100ml	£44.00
A0029-1PK(4L)	TG Buffer, 10x Premixed Powder	1pk (4L)	£25.00
NBS-6300-50	TG Buffer, 10x Solution	5L	£64.00
NBS-6300-100	TG Buffer, 10x Solution	10L	£102.00
A0031-1PK(4L)	TG-SDS Buffer, 10x Premixed Powder	1pk (4L)	£25.00
NBS-6400-50	TG-SDS Buffer, 10x Solution	5L	£69.00
NBS-6400-100	TG-SDS Buffer, 10x Solution	10L	£106.00

# ECL Western Blotting Reagent

*Chemilluminescient Substrate for HRP*

- ✓ Highly Sensitive Nonradioactive Substrate
- ✓ Easy Detection of Picogram Amounts of Antigen

ECL Western Blotting Substrate is a highly sensitive nonradioactive, enhanced luminol based chemilluminescient substrate for the detection of horseradish peroxidase (HRP) on immunoblots.

ECL Western Blotting Substrate enables the detection of picogram amounts of antigen and allows for easy detection of HRP using photographic or other imaging methods. Blots can be repeatedly exposed to X-ray film to obtain optimal results or stripped of the immuno-detection reagents and re-probed. The special formulation of ECL Substrate makes it the ideal substitute for Amersham ECL Substrate without the need for additional optimisation of assay conditions

## Product Description...

ECL Western blotting detection reagent contains 2x100ml of A and B solutions.

Solutions A and B are mixed in a 1:1 ratio immediately prior to application. The mixture is then ready for detection of any immobilised specific antigens in chemiluminescent western blots through horseradish peroxidase (HRP) labelled antibodies. The kit is designed for a high quality and long lasting glow reaction.

The reagents in this kit have been matched to optimise the range and sensitivity of detection using various antibodies in Western blot assays.

## Ordering Information

Cat #	Description	Pack Size	Price
G075	ECL Western Blotting Reagent	2 x 100ml	£71.00

# Protein Labelling Kits

- ✓ High Recovery of Conjugates
- ✓ All Reagents Required for Labelling
- ✓ All Processes in Single Filtration Tube



## Fluorescein Labelling Kit

The Fluorescein Labelling Kit-NH2 is mainly used for the preparation of fluorescein-labelled proteins such as IgG for immunostaining and cellular proteins for tracing. This kit can be used to produce conjugates in 1 hour and contains all of the necessary reagents for labelling, including storage buffer. Each vial of fluorescein can label up to 200 µg of IgG, conjugating about 4 to 6 fluorescein molecules per IgG molecule.

## Biotin Labelling Kit

The Biotin Labelling Kit is available as both NH2 and SH reactive biotin (offering conjugation in 1 hour or 3 hours respectively). Both kits offer a high recovery of conjugates and contain all necessary reagents for the labelling. The number of biotin molecules per protein can be determined by HABA assay and excess biotin molecules can be removed using the Filtration tube (included).

## Peroxidase Labelling Kit

The Peroxidase Labelling Kit is available as both NH2 and SH reactive peroxidase (offering conjugation in 1 hour or 3 hours respectively). This kit is mainly used for the preparation of peroxidase-labelled IgG for enzyme immunoassay (EIA) and for the preparation of peroxidase-labelled antigen for competitive EIA. This kit contains all of the necessary reagents for the labelling process, including Reducing agent and Storage buffer. When labelling small molecules, excess molecules can be removed by using the Filtration tubes included in this kit.

### Ordering Information

Cat #	Description	Pack Size	Price
LK01-10	Fluorescein Labelling Kit-NH2	3 samples	£259.00
LK03-10	Biotin Labelling Kit-NH2	3 samples	£150.00
LK55-10	Biotin Labelling Kit-NH2	1 sample	£141.00
LK10-10	Biotin Labelling Kit-SH	3 samples	£147.00
LK57-10	Biotin Labelling Kit-SH	1 sample	£145.00
LK11-10	Peroxidase Labelling Kit-NH2	3 samples	£207.00
LK51-10	Peroxidase Labelling Kit-NH2	1 sample	£202.00
LK09-10	Peroxidase Labelling Kit-SH	3 samples	£207.00
LK53-10	Peroxidase Labelling Kit-SH	1 sample	£202.00

# Cell Counting Kit-8

*New Lower Price!!*

## Low Cytotoxicity Viability & Proliferation Assay

- ✓ Low Cellular Toxicity
- ✓ Ready-to-Use Single Bottle Solution
- ✓ No Radioisotopes or Organic Solvents Required

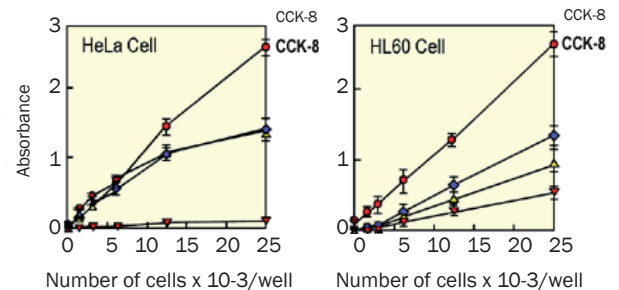


1. Add CCK-8      2. Incubate      3. Read O.D.

Cell Counting Kit-8 (CCK-8) is a Dehydrogenase based assay for cell viability and cytotoxicity. CCK-8 has been developed utilising highly water soluble tetrazolium salts, called WSTs, these produce a water-soluble formazan dye upon bioreduction in the presence of an electron carrier.

CCK-8 is added directly to the cells with no premixing of components, and is bioreduced by cellular dehydrogenases to give an orange water formazan product that is directly proportional to the number of living cells.

The kit components show no cytotoxicity in cell culture media and additional experiments may be carried out using the same assay plate. CCK-8 is a flexible assay and can be adapted for 24-384 well plates. CCK-8 combines the highly stable WST-8 with 1-Methoxy PMS, giving a sensitive, nonradioactive colourimetric assay for determining the number of viable cells.



### Toxicity of Assay Solutions:

Comparison Between CCK-8 and Competitor Kit



Cell Counting Kit-8



Cell viability assay from company R

### Ordering Information

Cat #	Description	Pack Size	Price
CK04-10	Cell Counting Kit-8	500 assays	£89.00
CK04-11	Cell Counting Kit-8	1000 assays	£144.00
CK04-13	Cell Counting Kit-8	3000 assays	£307.00
CK04-20	Cell Counting Kit-8	10,000 assays	£1,067.00



# ES/iPS Differentiation Monitoring

## Kit for ES/iPS Endoderm Differentiation Monitoring

- ✓ Faster than Conventional Methods
- ✓ Non-Destructive for Continuous Cell Culture
- ✓ Suitable for Multiple Sample Measurements



### Comparison with Conventional Methods

	ES/iPS Kit	PCR	Immunostaining	Flow Cytometry
Procedure	3 hours	> 7 hours	1-2 days	> 4 hours
Sample	Supernatant	mRNA	Whole cells	Whole cells
Continuous Cell Culture	Possible	Impossible	Impossible	Impossible
Marker	Cerberus 1	Sox17, Foxa2	Sox17, Foxa2	CXCR4

The embryonic stem cells (ES cells) or induced pluripotent stem cells (iPS cells) are differentiated to various cells through the three germ layers: endoderm, mesoderm and ectoderm. One of the secretory proteins in a culture medium was found to be a marker of the conversion level of ES or iPS to endodermal cells. This secretory protein has a good correlation with Sox17 and Foxa2 which are commonly used proteins as markers of endoderm differentiation. The amount of this protein in the cell culture supernatant determined by ELISA can be used to monitor the efficiency of differentiation of endodermal cells from ES/iPS cells. This kit is designed for the 96-well microplate format so it's suitable for multiple sample measurements, eg. screening with inducers of differentiation for ES/iPS cells.

### Ordering Information

Cat #	Description	Pack Size	Price
ES01-10	ES/iPS Differentiation Monitoring Kit - Human Endoderm	96 Tests	£957.00
ES02-10	ES/iPS Differentiation Monitoring Kit - Mouse Endoderm	96 Tests	£957.00

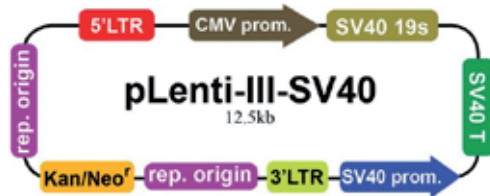
# Lenti-SV40 Virus



The SV40 T antigen has been shown to be the simplest and most reliable agent for the immortalisation of many different cell types in culture. For the most part, viral genes achieve immortalisation by inactivating the tumor suppressor genes (p53, Rb, and others) that can induce a replicative senescent state in cells. Recent studies have also shown that SV40 T antigen can induce Telomerase activity in the infected cells.

## Lenti-SV40 Virus

### Vector Map



### Description

Lenti/SV40 virus is a recombinant lentivirus containing SV40 whole gene. The virus can be used to infect primary target cells for cell immortalisation. The SV40 genome is over 5kb, which exceeds the packaging limit of the lentiviral vector and will result in either very low or no lentiviral titer. For this reason, the puromycin selection marker has been deleted from our pLenti-III/HA vector to allow high titers of Lenti-SV40 virus to be produced. It is not always necessary to use a selection marker for most primary cell immortalisations, especially for epithelial cells that normally have less than 10 population doubling cycles in culture. The unimmortalised cells will not survive and only the immortalised cells will thrive

## Lenti-SV40 T Virus

Lenti-SV40 T virus is a recombinant lentivirus containing SV40 large T antigen. SV40 large T antigen is a multifunctional protein that is essential for the replication and expression of the viral genome, as well as for the establishment and maintenance of cell transformation and tumor induction.

## Lenti-SV40 T+t Virus

Lenti-SV40 T+t virus is a recombinant lentivirus containing SV40 large and small T antigen. SV40 large T antigen is described above, SV40 small T antigen is thought to play an important role in viral transformation and possibly in lytic infection.

### Also Available

- Adenovirus
- Retrovirus
- hTERT
- Cell Specific Products

### Ordering Information

Cat #	Description	Pack Size	Price
G203	Lenti-SV40 Virus	10ml	£658.00
G256	Lenti-SV40T Virus	10ml	£599.00
G258	Lenti-SV40 T+t Virus	10ml	£599.00

# Custom Lentivirus Service

## ✓ Custom Production of Recombinant Lentiviral Vectors/Particles

Recombinant lentiviral vectors have been shown to be powerful tools for stable gene transfer to both dividing and non-dividing cells in vitro and in vivo. We work in collaboration with ABM to produce custom lentivirus products using their proprietary pLenti-Combo packaging mix and an efficient protocol for rapid production and preparation of recombinant lentiviral vectors/particles with titers up to  $10^{10}$  IU/ml.

### Ordering Information

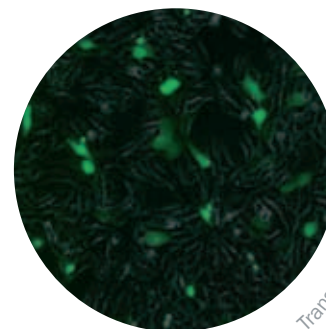
Service	Description	Cat #	Price	
Custom Lentiviral Plasmid Cloning	Sub-cloning gene of interest (w/ compatible sites) into a lentiviral vector system	LV021-a	£532.00	
	Sub-cloning gene of interest (w/o compatible sites) into a lentiviral vector system	LV021-b	£679.00	
	PCR-cloning gene of interest (<3.0kb) into a lentiviral vector system	LV021-c	£532.00	
	PCR-cloning gene of interest (>3.0kb) into a lentiviral vector system	LV021-d	£679.00	
Custom Lentiviral Production	Enough DNA Provided	Custom Recombinant Lentivirus ( $10^6$ IU/ml; 10ml)	LV001	£448.00
		High-Titer Custom Recombinant Lentivirus ( $10^7$ IU/ml; 1ml)	LV001-a	£658.00
		High-Titer Custom Recombinant Lentivirus ( $10^8$ IU/ml; 550ul)	LV001-b	£867.00
		High-Titer Custom Recombinant Lentivirus ( $10^9$ IU/ml; 100ul)	LV001-c	£1077.00
	DNA Amplification Required	High-Titer Custom Recombinant Lentivirus ( $10^{10}$ IU/ml; 100ul)	LV001-d	£1457.00
		Custom Recombinant Lentivirus ( $10^6$ IU/ml; 10ml)	LV002	£700.00
		High-Titer Custom Recombinant Lentivirus ( $10^7$ IU/ml; 1ml)	LV002-a	£783.00
		High-Titer Custom Recombinant Lentivirus ( $10^8$ IU/ml; 550ul)	LV002-b	£993.00
		High-Titer Custom Recombinant Lentivirus ( $10^9$ IU/ml; 100ul)	LV002-c	£1203.00
		High-Titer Custom Recombinant Lentivirus ( $10^{10}$ IU/ml; 100ul)	LV002-d	£1622.00
Custom Lentiviral Titration	qPCR Based (Detectable Range of $10^4$ - $10^{10}$ IU/ml)	C099	£78.00	

Please Note: The timeframe for delivery of these custom manufactured items is variable, an estimate can be provided on request.

# DNAfectin 2100

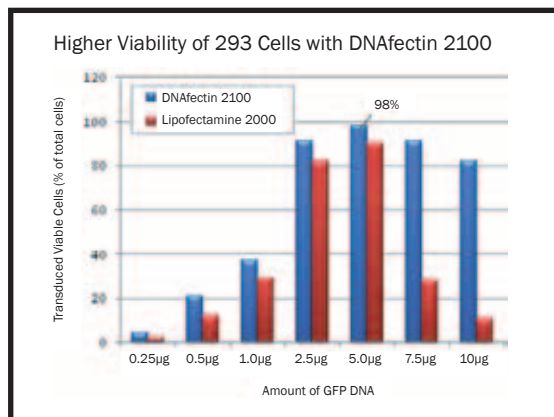
## High Efficiency Transfection Reagent

- ✓ Low Cytotoxicity
- ✓ Suitable for Primary Cells



Transfection of Vero African Green Monkey Kidney Cells

DNAfectin 2100 Transfection Reagent is a unique formulation of multiple polycations and liposomes that enable highly efficient and effective DNA transfection of eukaryotic cells.



### Above

Transfection efficiency and cell viability of 293 cells transfected with different amounts of GFP plasmid DNA in a 6-well cell culture plate. Results are recorded 48 hours after transfection.

### Ordering Information

Cat #	Description	Pack Size	Price
G2100	DNAfectin 2100	1mg/ml	£85.00

Cell Line	Species/Tissue	Efficiency
293T	Human Embryonic Kidney	100%
Jurkat	Human T Lymphoma	25%
SHEP	Human Neuroblastoma	90%
BOSC23	Human Kidney	90%
HT1080	Human Fibrosarcoma	80%
C33A	Human Cervical Carcinoma	90%
MRC5	Human Primary Fibroblast	80%
MDK+Telo	Dog Kidney Cells+Telo	80%
B16	Murine Melanoma	80%
CB3	Mouse Erythroleukemia	25%
HuVEC	Human Umbilical Vein	20%
HepG2	Human Liver Carcinoma	40%
MMRU	Human Melanoma	75%
MMAN	Human Melanoma	80%
MDA-MB-231	Human Breast Carcinoma	85%
HeLa	Human Cervical Carcinoma	80-90%
A2780	Human Ovarian Carcinoma	70-75%
L6	Rat Myoblast	60-70%
Rabbit-telo	Telomerase-Rabbit Cells	50%
USO2 (T-USO2)	Human Osteosarcoma (tet-inducible)	80-90%

# Custom siRNA

*HPLC Purified Oligos for Efficient Silencing*

- ✓ Competitively Priced
- ✓ High Quality: HPLC Purity >97%
- ✓ Chemical Modified, Dye-Labelled or Large Scale Oligos



Our custom siRNA oligos are HPLC purified to >97%, this removes all of the unpaired single chains so all you need to do is dilute the oligos into universal buffer. The siRNA oligos are also chemically synthesised giving the following advantages:

1. Simple Operation
2. High Transfection Efficiency
3. Minimal Toxic Side Effect for Cells/Tissues
4. Large-scale Preparation

To order please supply either the sequences (sense & antisense) or the gene name.

*free design*

**£86.00 / 5.0nmol**

*free negative control*

## Ordering Information

Cat #	Description	Pack Size	Price
A01002	Custom siRNA Oligo	5.0 nmol	£86.00
A01005	Custom siRNA Oligo	12.5 nmol	£144.00
A01010	Custom siRNA Oligo	25.0 nmol	£267.00
A02002	Chemically Modified siRNA Oligo	5.0 nmol	£110.00
A02005	Chemically Modified siRNA Oligo	12.5 nmol	£169.00
A02010	Chemically Modified siRNA Oligo	25.0 nmol	£284.00
A03002	FAM Labelled siRNA Oligo	5.0 nmol	£159.00
A03005	FAM Labelled siRNA Oligo	12.5 nmol	£217.00
A03010	FAM Labelled siRNA Oligo	25.0 nmol	£334.00
B01001	siRNA Negative Control	2.5nmol	£28.00
B01002	siRNA FAM Labelled Negative Control	2.5nmol	£37.00
B01003	siRNA Positive Control	2.5nmol	£28.00

Genomics

Proteomics

Cell Biology

Cell Culture

Separation

# miRNA Mimics & Inhibitors

*HPLC Purified miRNAs for Gene Regulation & Knockout*

✔ Competitively Priced

✔ HPLC Purified (>97%)

## miRNA Mimic Synthesis

miRNA mimics are small, single stranded, chemically-synthetic and optimised nucleic acids designed to mimic endogenous mature microRNA (miRNA) molecules in cells. Our miRNA Mimics are designed to directly enter the miRNA processing pathway and, after processing, are treated identically to endogenous miRNA within the cell.

## miRNA Inhibitor Synthesis

miRNA inhibitors are chemically-modified and optimised nucleic acids designed to specifically target the miRNA molecules in cells. Endogenous miRNAs are small, regulatory RNAs that affect the translation of target mRNAs in animals and plants. The miRNA inhibitors are sequence-specific and chemically-modified to specifically target and knockout individual miRNA molecules.

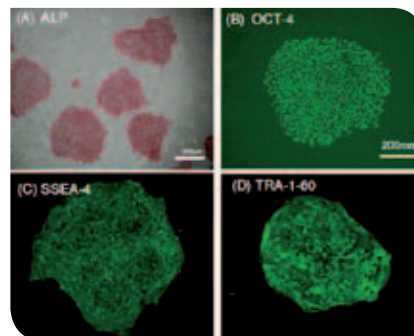
### Ordering Information

<i>Cat #</i>	<i>Description</i>	<i>Pack Size</i>	<i>Price</i>
M-01-S	miRNA Single Stranded (ss) Mimics	5nmol	£86.00
M-01-D	miRNA Double Stranded (ds) Mimics	12.5nmol	£144.00
M-03-S	miRNA Mimics ss Negative Control	2.5nmol	£28.00
M-03-D	miRNA Mimics ds Negative Control	2.5nmol	£28.00
M-05	miRNA Mimics FAM Labelled ss Negative Control	2.5nmol	£37.00
M-02	miRNA Inhibitors	5nmol	£86.00
M-06	miRNA Inhibitors FAM Labelled ss Negative Control	2.5nmol	£48.00

# StemCell Keep

## Cryopreservation Solution for Stem Cells

- ✓ High Efficiency
- ✓ Protein and DMSO Free
- ✓ Long Shelf Life - Two Years at 4°C



StemCell Keep is a ready-to-use vitrification solution for human ES/iPS cell cryopreservation. This low toxicity and easy to handle solution has been developed without any protein or DMSO to achieve maximum efficiency.

### High Efficiency

StemCell Keep combines high cytoprotection with vitrification technology to cryopreserve ES/iPS cell colonies - cell pluripotency is maintained after thawing.

### Protein and DMSO Free

Animal-derived, protein free and DMSO free formulation with no risk of the adverse affect of DMSO on differentiation usually associated with vitrification.

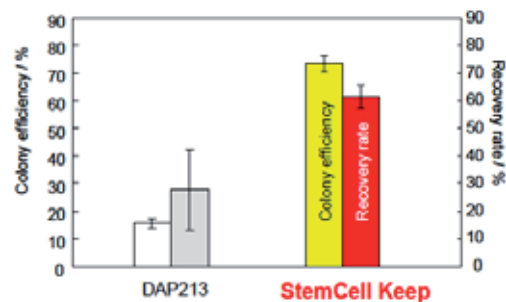
### Long Shelf Life

StemCell Keep has a shelf life of 2 years when stored at 4°C, after use the remaining solution can be kept for this period without losing functional quality.

### Ordering Information

Cat #	Description	Pack Size	Price
VPL-A1	StemCell Keep	20ml (100 vials)	£224.00

Cryopreservation of human iPS cells in the colony state



Above - attached colony and recovery rates after thawing. *One day after seeding.* After vitrification with DAP213 only 15% of colonies were attached (compared to the non-freezing control), compared to 80% of the colonies when vitrified with StemCell-Keep. *At day 4.* Cells had grown and formed large colonies, these were counted to evaluate recovery rates - 28% for cells preserved by vitrification using DAP213, compared to 62% using StemCell-Keep.

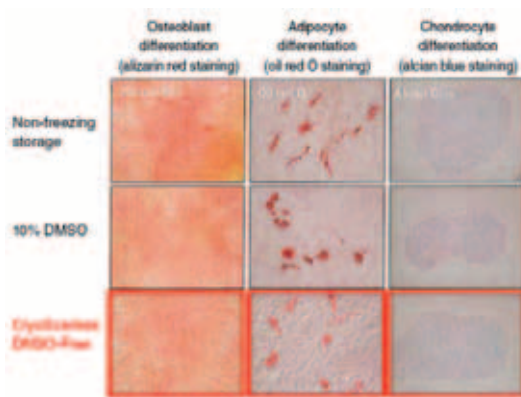
# CryoScarless

Serum/DMSO Free Medium for long-term Storage

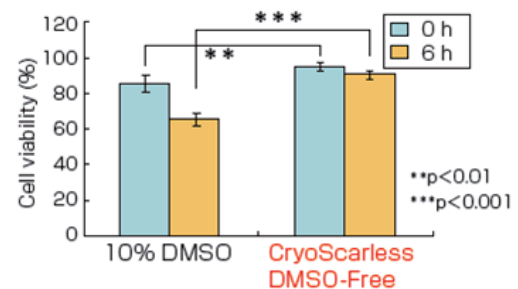
- ✓ Serum-Free and DMSO-Free Formulation
- ✓ Consistent and High Cell Viability after Thawing
- ✓ Free of Bacteria, Fungi and Mycoplasma Contamination



CryoScarless is a serum-free and DMSO-free cryopreservation medium for preservation of various cells at  $-80^{\circ}\text{C}$  or in liquid nitrogen. This ready-to-use medium offers consistent and high cell viability after thawing ( $> 90\%$  for most of the cell lines) whilst maintaining stem cell pluripotency. CryoScarless is free of bacteria, fungi and mycoplasma contamination and comes with a long shelf life (stable for 2 years at  $4^{\circ}\text{C}$  after the date of manufacture).



Above - Differentiation of rat mesenchymal stem cells after thawing. The results showed that cell pluripotency was maintained after thawing in rat mesenchymal stem cells cryopreserved in CryoScarless DMSO-Free.



Above - Cell viability of rat mesenchymal stem cells after thawing. Cell viability after cryopreservation with CryoScarless DMSO-Free was significantly higher than cells cryopreserved in 10% DMSO. 0 h : immediately after thawing, 6 h : after cell adhesion

## Ordering Information

Cat #	Description	Pack Size	Price
CPL-A1	CryoScarless	100ml	£293.00



# ThelioKeep

## Preservation Medium for Dermal Tissue

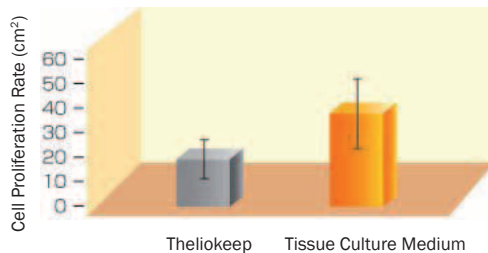
- ✔ Tissues Kept in Theliokeep can be used for Various Applications
- ✔ Free of Bacteria, Fungi and Mycoplasma Contamination



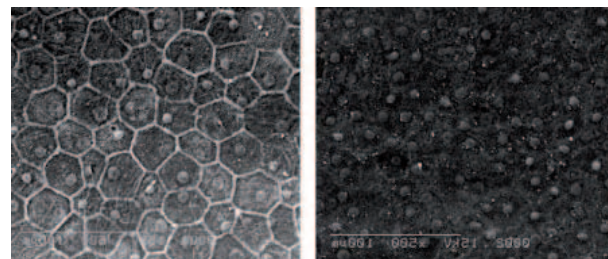
ThelioKeep is a serum-free and dimethyl sulfoxide (DMSO)-free medium for preserving tissue at 4°C for 1 - 2 weeks. Preservation with Theliokeep Maintains the morphology and proliferative ability of epithelium and endothelium tissues, it can also be used in neural tissue and in the case of peripheral nerve the electrophysiological function will be maintained.

## Comparison Data

Comparison of morphology and proliferative ability using corneal endothelium tissue



Comparison of cell membrane form in tissue preserved for 2 weeks at 4°C



Theliokeep

Tissue Culture Medium

## Ordering Information

Cat #	Description	Pack Size	Price
TPO-A1	Theliokeep	100ml	£182.00

# CDM-HD Serum Replacement

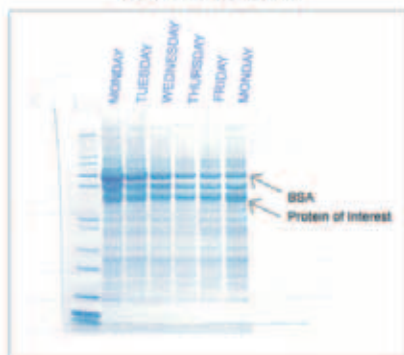
*Chemically Defined & Protein Free*

- ✔ Lot-to-Lot Consistency
- ✔ Regulatory Compliance Simplified
- ✔ Long Shelf Life, Simple Storage Conditions

CDM-HD Serum Replacement is a chemically defined, protein free serum replacement that permits any basal medium (eg. DMEM or RPMI) to be used without serum.

CDM-HD provides lot-to-lot consistency and is an economical replacement for serum. It is available as a dry powder to make up one litre and is used at a concentration of 10%. CDM-HD has been optimised for hollow fiber systems but is also suitable for use in T-Flask based cell cultures.

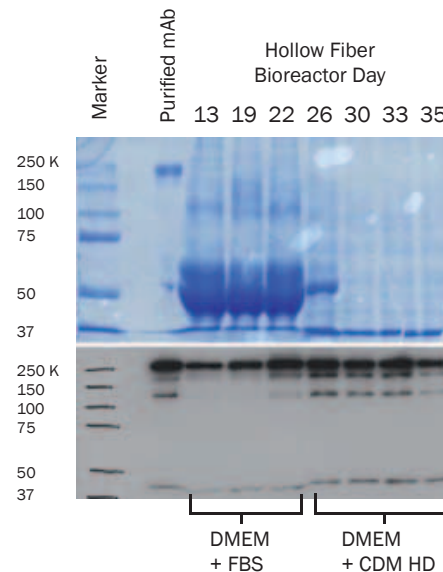
Demonstration of Adaptation to Serum-free Medium



SDS-Page gel of successive harvests from the ECS of a recombinant protein secreted by a 293 cell line. Initial medium is DMEM with 10% FBS (Monday). Medium is changed from DMEM-FBS to Hyclone serum free medium for 293 cells. Note the diminution of serum proteins, especially BSA in the harvest from the ECS while the protein of interest remains constant or increases as the adaptation continues. Protein of interest is higher in concentration on Mondays as it has accumulated over the weekend to a higher level.

## Ordering Information

Cat #	Description	Pack Size	Price
CDM-HD	CDM-HD Serum Replacement	Powder for 1L	£152.00



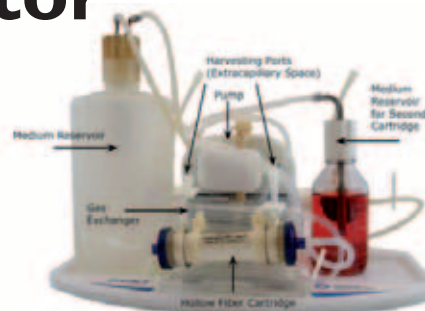
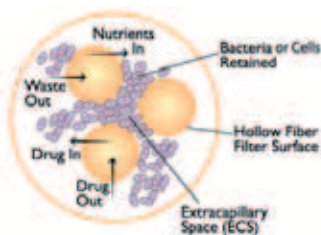
CDM-HD is part of the complete hollow fiber cell culture range we supply. This range includes the duet pump (see page 27), cartridges and accessories.

Designed for...

- ✔ Monoclonal Antibodies
- ✔ Recombinant Proteins
- ✔ In Vitro Toxicity
- ✔ Lymphocyte
- ✔ Endothelial
- ✔ Virus

# Hollow Fiber Bioreactor

## Duet Pump for Hollow Fiber Cell Culture



The Duet Pump provides flexible flow rate support for hollow fiber cell culture. Continuous flow is required to provide nutrition and constant oxygenation of the culture modules, so the Duet utilises a unique positive pressure displacement pumping action on the pump tubing of the flow path, this squeezing of the tubing in conjunction with the two one-way check valves produces a frictionless pumping action. This frictionless mechanism is the reason that FiberCell Systems modules have supported continuous culture of cells up to 2 years of continuous culture.

Cat #	Size	Surface Area	Fiber Type	Packing Density	ECS Vol	MWCO 50%	Max. Cell#	Price
C2025	Small	75 cm <sup>2</sup>	activated PS	30%	2.5 mL	0.1 µm	108	£185.00
C2008	Medium	3000 cm <sup>2</sup>	low flux PS	50%	20 mL	5 kd	109	£364.00
C2011	Medium	3000 cm <sup>2</sup>	high flux PS	50%	20 mL	20 kd	109	£364.00
C2003	Large	1.2 m <sup>2</sup>	low flux PS	50%	70 mL	5 kd	5 x 10 <sup>10</sup>	£499.00
C2018	Large	1.2 m <sup>2</sup>	high flux PS	50%	70 mL	20 kd	5 x 10 <sup>10</sup>	£499.00
C4005	X-Large	2.5 m <sup>2</sup>	low flux PS	50%	150 mL	5 kd	1011	£429.00
C3008	Medium	2000 cm <sup>2</sup>	Cellulosic	38%	12 mL	10 kd	109	£364.00
C4020	X-Large	2.5 m <sup>2</sup>	high flux PS	50%	150 mL	20 kd	1011	£429.00
C5011	Medium	3000 cm <sup>2</sup>	high flux PS	50%	20 mL	20 kd	2 x 10 <sup>9</sup>	£400.00

### ▲ Cartridge Selection Guide

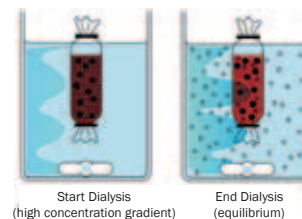
Please use the table above to choose the correct cartridge for use with the Duet Pump.

### Ordering Information

Cat #	Description	Price
P3202	FiberCell Duet Pump	£1881.00
Oxy.6	0.6m <sup>2</sup> Oxygenator	£969.00
A1006	38mm Reservoir Caps for plastic bottles	£170.00
A1005	33mm Reservoir Caps for glass bottles	£170.00
A1008	45mm Reservoir Caps (steel) for bottles	£242.00

# Biotech Dialysis Tubing

Biotech Grade CE and RC Tubing, Discs & Sheets



Biotech membranes are specifically engineered for more critical separation constraints in which an ultrapure membrane with a precise MWCO is required. Since these synthetic membranes are manufactured using a process without metal salts, no pre-treatment or cleaning is required. Biotech membranes are available in two membrane types:

- Cellulose Ester (CE)
- Regenerated Cellulose (RC)



## Cellulose Ester (CE)

Wide range of selectivity and purity  
pH Range: 2-9  
Temperature Limit: 37°C  
Organic Resistance: Fair

## Regenerated Cellulose (RC)

Combined selectivity, purity, resistance  
pH Range: 2-12  
Temperature Limit: 60°C  
Organic Resistance: Good

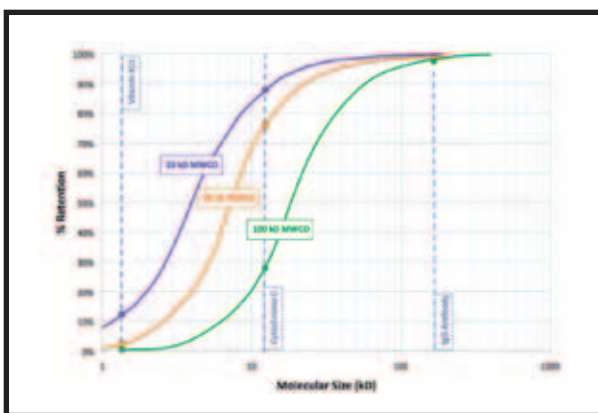
## Ordering Information

Cat #	Description	Pack Size	Price
128610	SPECTRA/POR BIOTECH RC 10,000 MWCO 10MM	15M/PKG	£314.00
128616	SPECTRA/POR BIOTECH RC 10,000 MWCO 16MM	15M/PKG	£314.00
128620	SPECTRA/POR BIOTECH RC 25,000 MWCO 10MM	15M/PKG	£314.00
128626	SPECTRA/POR BIOTECH RC 25,000 MWCO 16 MM	15M/PKG	£314.00
129015	SPECTRA/POR BIOTECH RC 8,000 MWCO 10MM	15M/PKG	£314.00
129020	SPECTRA/POR BIOTECH RC 8,000 MWCO 16MM	15M/PKG	£314.00
129115	SPECTRA/POR BIOTECH RC 15,000 MWCO 10MM	15M/PKG	£314.00
129120	SPECTRA/POR BIOTECH RC 15,000 MWCO 16MM	15M/PKG	£314.00
133110	SPECTRA/POR BIOTECH RC 3.500 MWCO 10MM	15M/PKG	£314.00
133116	SPECTRA/POR BIOTECH RC 3.500 MWCO 16MM	15M/PKG	£314.00
131048	SPECTRA/POR BIOTECH CE 100 - 500 MWCO 10MM	10M/PKG	£350.00
131054	SPECTRA/POR BIOTECH CE 100 - 500 MWCO 16MM	10M/PKG	£400.00
131054T	SPECTRA/POR BIOTECH CE 100 - 500 MWCO 16MM	1M/PKG	£132.00
131057	SPECTRA/POR BIOTECH CE 100 - 500 MWCO 24MM	10M/PKG	£458.00
131060	SPECTRA/POR BIOTECH CE 100 - 500 MWCO 31MM	10M/PKG	£481.00
131084	SPECTRA/POR BIOTECH CE 500 - 1,000 MWCO 10MM	10M/PKG	£350.00
131090	SPECTRA/POR BIOTECH CE 500 - 1,000 MWCO 16MM	10M/PKG	£400.00
131090T	SPECTRA/POR BIOTECH CE 500 - 1,000 MWCO 16MM	1M/PKG	£132.00
131093	SPECTRA/POR BIOTECH CE 500 - 1,000 MWCO 24MM	10M/PKG	£458.00
131096	SPECTRA/POR BIOTECH CE 500 - 1,000 MWCO 31MM	10M/PKG	£481.00
131192	SPECTRA/POR BIOTECH CE 3.500 - 5,000 MWCO 10MM	10M/PKG	£350.00
131198	SPECTRA/POR BIOTECH CE 3.500 - 5,000 MWCO 16MM	10M/PKG	£400.00
131198T	SPECTRA/POR BIOTECH CE 3.500 - 5,000 MWCO 16MM	1M/PKG	£132.00
131201	SPECTRA/POR BIOTECH CE 3.500 - 5,000 MWCO 24MM	10M/PKG	£458.00
131204	SPECTRA/POR BIOTECH CE 3.500 - 5,000 MWCO 31MM	10M/PKG	£481.00
131264	SPECTRA/POR BIOTECH CE 8.000 - 10,000 MWCO 10MM	10M/PKG	£350.00
131270	SPECTRA/POR BIOTECH CE 8.000 - 10,000 MWCO 16MM	10M/PKG	£400.00
131270T	SPECTRA/POR BIOTECH CE 8.000 - 10,000 MWCO 16MM	1M/PKG	£132.00
131273	SPECTRA/POR BIOTECH CE 8.000 - 10,000 MWCO 24MM	10M/PKG	£458.00
131276	SPECTRA/POR BIOTECH CE 8.000 - 10,000 MWCO 31MM	10M/PKG	£481.00
131336	SPECTRA/POR BIOTECH CE 20,000 MWCO 10MM	10M/PKG	£350.00
131342	SPECTRA/POR BIOTECH CE 20,000 MWCO 16MM	10M/PKG	£400.00
131342T	SPECTRA/POR BIOTECH CE 20,000 MWCO 16MM	1M/PKG	£132.00
131345	SPECTRA/POR BIOTECH CE 20,000 MWCO 24MM	10M/PKG	£458.00
131348	SPECTRA/POR BIOTECH CE 20,000 MWCO 31MM	10M/PKG	£481.00
131372	SPECTRA/POR BIOTECH CE 50,000 MWCO 10MM	10M/PKG	£350.00
131378	SPECTRA/POR BIOTECH CE 50,000 MWCO 16MM	10M/PKG	£400.00
131378T	SPECTRA/POR BIOTECH CE 50,000 MWCO 16MM	1M/PKG	£132.00
131381	SPECTRA/POR BIOTECH CE 50,000 MWCO 24MM	10M/PKG	£458.00
131384	SPECTRA/POR BIOTECH CE 50,000 MWCO 31MM	10M/PKG	£481.00
131408	SPECTRA/POR BIOTECH CE 100,000 MWCO 10MM	10M/PKG	£350.00
131414	SPECTRA/POR BIOTECH CE 100,000 MWCO 16MM	10M/PKG	£400.00
131414T	SPECTRA/POR BIOTECH CE 100,000 MWCO 16MM	1M/PKG	£132.00
131417	SPECTRA/POR BIOTECH CE 100,000 MWCO 24MM	10M/PKG	£458.00
131420	SPECTRA/POR BIOTECH CE 100,000 MWCO 31MM	10M/PKG	£481.00
131450	SPECTRA/POR BIOTECH CE 300,000 MWCO 24MM	10M/PKG	£400.00
131450T	SPECTRA/POR BIOTECH CE 300,000 MWCO 24MM	1M/PKG	£132.00
131486	SPECTRA/POR BIOTECH CE 1,000,000 MWCO 16MM	10M/PKG	£400.00
131486T	SPECTRA/POR BIOTECH CE 1,000,000 MWCO 16MM	1M/PKG	£132.00

# Float-A-Lyser G2

## Ready-to-Use Dialysis Device

- ✓ 95 - 98% Sample Recovery
- ✓ Volume Specific Dilution Control
- ✓ Superior Handling & Leak Prevention



### ▲ MWCO Selection Guide

Please use the chart above to choose the correct molecular weight cut off.

The proprietary Biotech Grade CE is a low protein-binding synthetic membrane available in 6 precise MWCO's with no heavy metal and sulfide contaminants. The cylindrical tubing geometry prevents sample dilution (associated with cassette-type devices) and provides open access for total volume retrieval by pipette. Only the Float-A-Lyser G2 assures a 95-98% sample recovery while maintaining 99% sample purity and <1% sample dilution.



Introducing the Float-A-Lyser G2, the next generation in Ready-to-Use laboratory dialysis devices featuring proprietary Ultra-pure Biotech Cellulose Ester (CE) Membranes.

The leak-proof screw-on cap with sealing o-ring provides easy access with included pipette for loading, in-process testing and sample retrieval, without the risk of needle punctures. The included floatation ring improves sample buoyancy and vertical orientation during dialysis. The sleek design allows multiple samples to be dialysed in the same reservoir.

### Ordering Information

MWCO	Colour Code	Maximum Sample Volume			Pack Size
		1ml	5ml	10ml	
0.1 - 0.5 kD	Green	G235025	G235049	G235061	12/pkg
3.5 - 5 kD	Black	G235029	G235053	G235065	
8 - 10 kD	Yellow	G235031	G235055	G235067	
20 kD	Red	G235033	G235057	G235069	
50 kD	Violet	G235034	G235058	G235070	
100 kD	Blue	G235035	G235059	G235071	
300 kD	Amber	G235036	G235060	G235072	
1000 kD	Pink	G235037	G235062	G235073	
<b>Price</b>		£113.00	£124.00	£127.00	

Genomics

Proteomics

Cell Biology

Cell Culture

Separation

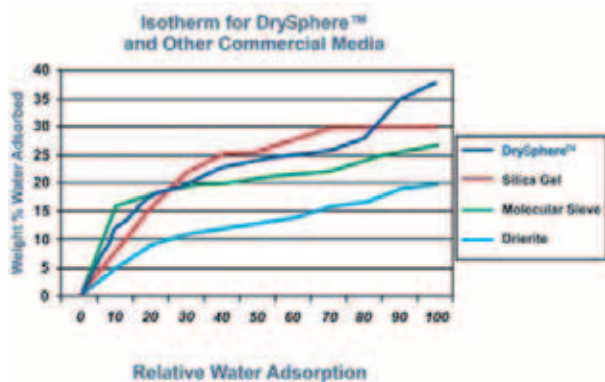
# Drysphere Activated Alumina

*The Most Effective Drying Agent on the Market!*

- ✔ Dust Free - Avoids Contamination
- ✔ High Capacity - Adsorbs 36% of Own Weight
- ✔ Increased Surface Area - Uses Multiple Channels and Pores



Drysphere provides a superior solution for gas and industrial liquid dehydration. It contains a dust free spherical activated alumina and has been manufactured as a specialised desiccant agent that works through the process of adsorption and is designed for the removal of water, oil and other heavy hydrocarbons from inert gases including nitrogen, helium and argon. The superior adsorption is achieved by the hydrophilic characteristics, the design of the microporosity and the extent of the achieved surface area.



DrySphere is the only activated alumina on the market that can extract and adsorb 36% of its own weight in water, which is 3 times more than the standard alumina product offered by competitors, 20% more than silica and 32% more than Drierite. No other commercial media can remove as much water. It is the superior desiccant agent on the market for the drying of industrial liquids and gases.

## Ordering Information

Indicator	Cat#	Description	Price
w/o indicator	01001-10	1/8 inch, 10kg	£296.00
	01001-25	1/8 inch, 25kg	£677.00
	01001-50	1/8 inch, 50kg	£1184.00
20% indicator	01005-10	1/8 inch, 10kg	£423.00
	01005-25	1/8 inch, 25kg	£846.00
	01005-50	1/8 inch, 50kg	£1565.00
100% indicator	01006-10	1/8 inch, 10kg	£761.00
	01006-25	1/8 inch, 25kg	£1607.00
	01006-50	1/8 inch, 50kg	£2790.00

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