runSAFE

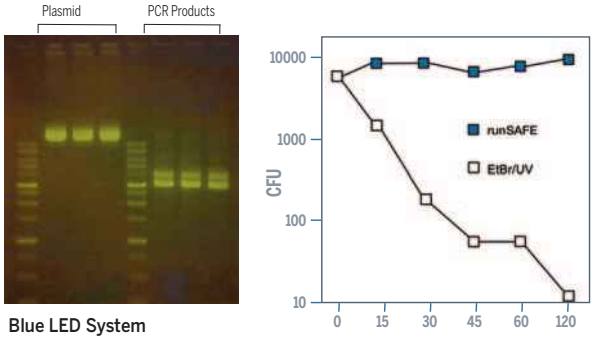
runSAFE comprises a stain and loading dye combination to visualise electrophoretic mobility of a wide range of DNA in agarose gels.

runSAFE is conveniently supplied in a 6x loading dye which is mixed with 5 parts double-stranded DNA before loading onto an agarose gel. runSAFE is non-toxic, safe for the environment and can be disposed of in the regular laboratory waste without using expensive decontamination methods. runSAFE is sensitive and binds DNA to detect as little as 0.2ng DNA per band within a gel; while gel imaging is best performed using the amber emission filter found on the bluVIEW lid or runDOC filter slide. runSAFE comprises:
– general purpose stain for DNA ranging from 50bp markers to large super-coiled plasmid.

KEY FEATURES

- Safe – runSAFE stain has ultra-low toxicity (LC>5000mg/kg) and lacks cell permeability
- Convenient – supplied as a ready to use 6x Loading dye; simply add 1 part stain to 5 parts DNA, mix and load your gel
- Fast – no time-consuming post-staining or de-staining of gels is required.
- Sensitive – very low background staining of the gel; detects as little as 0.2ng DNA per band
- Flexible – may be used with Blue or UV light

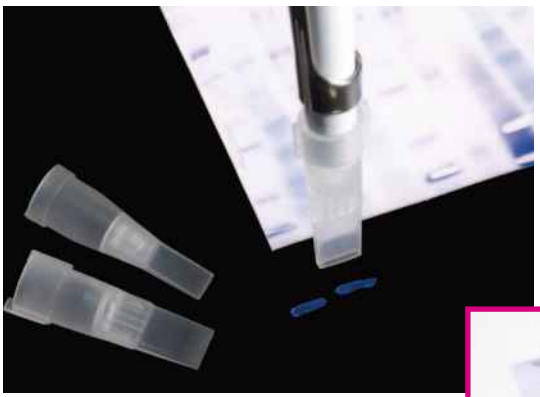
runSAFE - less DNA damage, improved cloning efficiency



Blue LED System

Slower migrating species, indicative of a linear or relaxed circular vector, resulting from DNA nicking or strand breaks, are significantly reduced in DNA plasmid mixed with run-SAFE and exposed to blue light. The concentration of nicked DNA plasmid increases significantly after 8' of exposure to EtBR and UV irradiation.

gel cutting tips



Gel Excision Tips offer a convenient and efficient one handed method of removing bands using a simple and rapid two-step process. The tips, in two sizes, 4.0 x 1mm and 6.5 x 1mm, cut directly into agarose or acrylamide gels, so eliminating cross contamination between samples. Alternative methods which require multiple steps including washing or rinsing are slow and tedious. These tips allow a safe and efficient one handed operation, with a push button gel and tip release, providing researchers with uniform extractions. Tips fit standard 1000µl pipettors and are available in bags and racks.

Ordering Information

runSAFE	Description	Tracking Dyes	Size Range
CSL-RUNSAFE	runSAFE stain, 1ml	Bromophenol Blue, Xylene Cyanol FF, Orange G	50bp – 20Kb

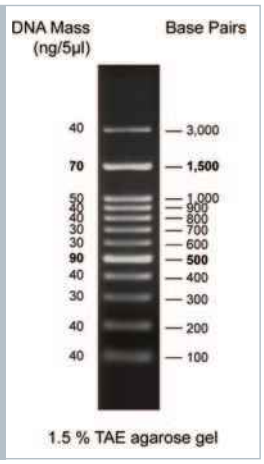
GEL EXCISION TIPS			
CSL-GELX4	Rectangular Tips - 4.0mm x 1mm, bag/250	CSL-GELX6.5	Rectangular Tips - 6.5mm x 1mm, bag/250
CSL-GELX4 RACK	Rectangular Tips - 4.0mm x 1mm, 5x racks of 48	CSL-GELX6.5RACK	Rectangular Tips - 6.5mm x 1mm, 5x racks of 48

dnaLADDERS

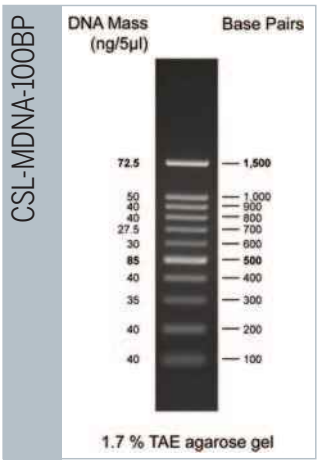
Pre-made and containing loading dye for immediate use, Cleaver Scientific's ready-to-use DNA markers are specially formulated to run accurately and produce sharp, well defined ladders.

Available in four molecular weight ranges and composed of discrete marker fragments isolated from restriction-digested proprietary plasmids, each DNA marker will remain stable for up to 6 months at room temperature and 12 months if kept in the fridge at 4°C. Each marker contains high intensity reference bands and may be used to perform size comparisons with DNA molecules ranging from the smallest of PCR fragments to large, linearised cosmid vectors.

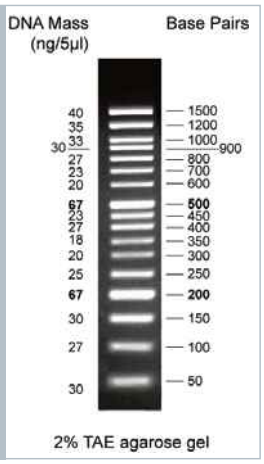
CSL-MDNA-100BPH



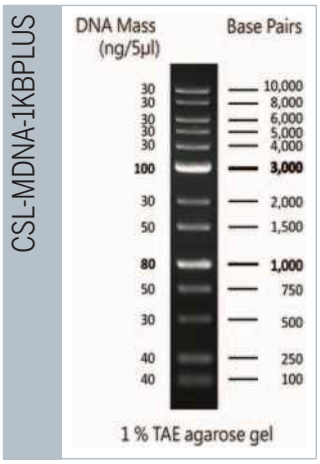
CSL-MDNA-100BP



CSL-MDNA-50BP



CSL-MDNA-1KBPLUS



KEY FEATURES

- Ready to use
- Crisp band patterns
- Includes bromophenol blue for ease of use
- Stable at room temperature

REQUEST A FREE SAMPLE

Please Note: Ladder banding patterns subject to change, identifiable range will remain the same

Ordering Information

Cat. No.	CSL-MDNA-100BPH	CSL-MDNA-100BP	CSL-MDNA-1KBPLUS	CSL-MDNA-50BP
Size Range	100-3000bp	100-1500bp	100bp-10kb	50-1500bp
Number of bands	12	11	13	17
Reference bands	500, 1500bp	500, 1500bp	1Kb, 3kb	200, 500bp
Package concentration	54µg/500µl vial	50µg/500µl vial	50µg/500µl vial	56µg/500µl vial
Storage	6 months at 25°C, 12 months at 4°C & 24 months at - 20°C			
Recommended loading vol.	5µl/well	5µl/well	5µl/well	5µl/well
Tracking dyes	Orange G, Xylene Cyanol FF, Bromophenol Blue			
Source	proprietary plasmids and PCR fragments phenol-extracted following restriction digestion and dissolved in 10mM Tris-HCl (pH 8.0) and 10mM EDTA			

reagents & CHEMICALS

buffers&DYES

Cleaver Scientific offers a range of concentrated buffers and loading dyes to complement the EZEE multisub horizontal electrophoresis range and to offer a complete solution for the users. These are ideal for laboratories running horizontal nucleic acid gels on a daily basis that require high quality reagents for reproducible results.

TBE and TAE buffers Nucleic acid agarose gel electrophoresis is usually conducted with either Tris-acetate-EDTA (TAE) buffer or Tris-borate-EDTA (TBE) buffer. While TAE buffer provides faster electrophoretic migration of linear DNA and better resolution of supercoiled DNA, TBE buffers have a stronger buffering capacity for longer or higher voltage electrophoresis runs. The buffers are available either as ready-to-use stock solutions (50xTAE and 10xTBE) or as dry powder that just need to be reconstitute in distilled water to provide a 10x stock solution (TBE only)

Powdered and Liquid Buffers

Technical Specifications

TAE	Final constituent concentrations: Tris acetate 0.04M, EDTA 0.001M, pH 8.0
TBE	Final constituent concentrations: Tris 0.089M, Boric Acid 0.089M, EDTA 0.002M, pH 8.3

10X Bromophenol Blue DNA loading dye, the standard tracking dye for electrophoresis. The charge-to-mass ratio of bromophenol blue allows it to co-migrate with smaller molecules within agarose and PAGE gels (e.g. at 300bp in a standard 1% agarose, TBE gel) which, with its conspicuous dark blue colour, makes it the perfect tracking dye to monitor the progress of electrophoresis runs. DNA loading dye is supplied in 1ml volumes for easy handling.

Orange G Loading dye 1x (with ficoll) Used as a marker in PAGE and Agarose electrophoresis of DNA, as it migrates through the gel consistently with smaller DNA fragments. Contains sucrose and Xylene Cyanol. Used as a 1x solution.

RNAse free water, DEPC-treated to eliminate enzyme activity and then autoclaved, this sterile highly purified water product is perfect for use in PCR and Northern blotting techniques. RNase-Free water is available either as a single 250ml bottle or in fifty 5ml aliquots to prevent cross-contamination.

Purified water (18 mega Ohms) for use with sensitive experimental procedures often needs verifying as pyrogen free, this is done using the LAL test or Limulus (Horseshoe crab) amoebocyte lysate assay. The LAL test is extremely sensitive to endotoxins which are the result of bacterial lysis. BP Grade Sterile Water has endotoxins removed by electrostatic filtration at the final purification stage prior to autoclaving. The LAL tested water conforms to the standard having less than <0.25EU/ml to ensure the water is of pr-requisite quality. This product is therefore pyrogen free. CFU>0 WFi compatible.

Ordering Information

POWDERED AND LIQUID BUFFERS

CSL-TBEP	Powdered Tris-Borate-EDTA Running Buffer, - to make 10x stock/1L – 10 sachets (1 litre / pack)	TBE10X5L	Buffer Tris-Borate-EDTA Running Buffer, 10 x 5L
		TAE50X1L	Buffer Tris-Acetate-EDTA Running Buffer, 50 x 1L
TBE10X1L	Buffer Tris-Borate-EDTA Running Buffer, 10 x 1L	TAE50X5L	Buffer Tris-Acetate-EDTA Running Buffer, 50 x 5L
CSL-LOADDYE	10x Bromophenol Blue Loading Dye, 1ml	CSL-LOADDYE10	10x Bromophenol Blue Loading Dye, 10ml
CSL-ORANGEDYE	Orange G Loading Dye, 1ml		
RFW250	RNase-Free Water, 1x250ml	RFW50X5	RNase-Free Water, 50x5ml
UPW1000	BP Grade Sterile Water, 1000ml		

Agaroz

Cleaver Scientific CleverGEL, standart elektroforetik prosedürler kullanılarak nükleik asitlerin analizi için uygun, çevre dostu bir agarozdur. Standart Düşük EEO, Yüksek Çözünürlüklü PCR sınıfı, Düşük erime noktası ve Anında agaroz tabletleri olarak mevcuttur.

CleverGEL agarose is suitable for analysis of nucleic acids using standard electrophoretic procedures. It is manufactured by a process which excludes organic solvents harmful to marine making them far kinder to the environment than convention agarose. A low EEO (electroendoosmotic) flow minimises diffusion so that even the smallest of nucleic acid fragments remains sharp and tightly resolved.
CleverGEL is available as standard Low EEO, High Resolution PCR grade, Low melting point and Instant agarose tablets.

ANA ÖZELLİKLER

CleverGel düşük EEO agaroz:
- Rutin analitik elektroforez ve 0.1-10Kb boyutundaki DNA ve RNA'nın lekelenmesi için idealdir
- Düşük EEO
- Yüksek jel mukavemeti

CleverGel Yüksek Çözünürlüklü– PCR sınıfı:
- Yüksek Çözünürlük
- Low background for analysis of fragments

CleverGel Low Melting Point: 20-800bp
- Used for nucleic acid recovery
- typically resolves fragments 200bp to 25Kb

CleverGel Instant Agarose Tablets:
- Faster and simpler to prepare
- Low EEO
- Consistent gel percentage

Instant Agarose Tablets

Technical Specifications

	Low EEO	Low Melting Point	High Resolution	Instant Agarose
CAS	9012-36-6	39346-81-1	39346-81-1	9012-36-6
Gelling Point*	36°C±1.5°C	26-30°C	≤33°C	36°C±1.5°C
Melting Point*	88°C±1.5°C	≤65°C	≤70°C	88°C±1.5°C
Solubility	clear, colourless @ 1% [w/v] solution	clear, colourless @ 2% [w/v] solution		clear, colourless @ 1% [w/v] solution
Moisture	≤10%	≤10%	≤10%	≤10%
Gel Strength	>1200 g/cm^2 (1% [w/v] gel)	>200 g/cm^2 (1% [w/v] gel)	≥750 g/cm^2 (1.5% [w/v] gel)	>1200 g/cm^2 (1% [w/v] gel)
Nuclease & Protease Free	yes	yes	yes	yes

*For a 1.5% [w/v] gel

Ordering Information

GENERAL PURPOSE

CSL-AG5	**Agarose 5g,** Low EEO
CSL-AG100	**Agarose 100g,** Low EEO
CSL-AG500	**Agarose 500g,** Low EEO
CSL-AG1000	**Agarose 1000g,** Low EEO (2x500g bottles)
CSL-AG2000	**Agarose 2000g,** Low EEO (4x500g)
CSL-AG5000	**Agarose 5000g,** Low EEO (10x500g)
CSL-AG10KG	**Agarose 10Kg,** Low EEO (20x500g)

LOW MELTING POINT

CSL-LMA5	**Agarose 5g,** LMP
CSL-LMA50	**Agarose 50g,** LMP
CSL-LMA100	**Agarose 100g**, LMP
CSL-LMA500	**Agarose 500g,** LMP

HIGH RESOLUTION PCR-GRADE

CSL-HRA5	**Agarose 5g,** HR
CSL-HRA100	**Agarose 100g,** HR
CSL-HRA500	**Agarose 500g,** HR

AGAROSE TABLETS

CSL-AGTAB	**Agarose 100g,** Low EEO (200x 0.5g tablets, supplied as 20 blister packs of 10x 0.5g tablets)

reagents & CHEMICALS

PAGE and Blotting Buffers

Buffers are available in powder sachets for a range of native and denaturing protein gel electrophoresis techniques and Western blotting.

Each powder sachet may be reconstituted to make 1 litre of 10X stock solution. Running buffers are also available in 1 litre and 5 litre volumes as ready made 10X stock solutions.

KEY FEATURES

- Convenient, pre-made stock solution or powder – just dilute or dissolve as necessary with water
- Save time & trouble – no weighing, pH adjustment or need to stock individual compounds
- Long shelf-life
- Consistency assured – rigorous QC for reproducible separations

TECHNICAL SPECIFICATIONS

Powder Buffer	Composition	Applications
Tris-Glycine SDS	Each litre of 1x working solution contains: Tris-base (25mM); glycine (192mM); SDS, 0.1% (w/v); followed by distilled water. Working solution pH = 8.3.	Denaturing SDS-PAGE for most cellular proteins, 10- 200kDa in size
Tris-Glycine (Towbin Buffer)	Each litre of 1x working solution contains: Tris-base (25mM); glycine (192mM); followed by distilled water. Working solution pH = 8.3.	Native PAGE or Transfer buffer (with addition of methanol- sup-

BP Grade ultra pure water

BP Grade Sterile Water has endotoxins removed by electrostatic filtration at the final purification stage prior to autoclaving. The LAL tested water conforms to the standard having less than <0.25EU/ml to ensure the water is of pre-requisite quality. This product is therefore pyrogen free. CFU>0 WFi compatible.

Ponceau S

Ponceau S staining solution is reusable and available in a convenient 500ml volume for membrane staining and early protein detection following transfer before western blotting. Ponceau S may also be supplied a powder staining kit for long-term storage.

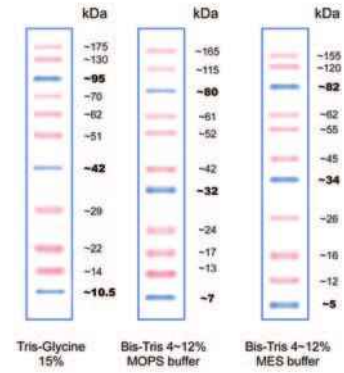
ORDERING INFORMATION

POWDER BUFFERS		LIQUID BUFFERS	
CSL-TGSDSP	Powdered Tris-Glycine-SDS Running buffer 10X stock	TG10X1L	Buffer Tris-Glycine 10 x 1 litre
CSL-TGP	Powdered Tris-Glycine buffer 10X stock	TG10X5L	Buffer Tris-Glycine 10 x 5 litre
		TG-SDS10X1L	Buffer Tris-Glycine SDS 10 x 1 litre
		TG-SDS10X5L	Buffer Tris-Glycine SDS 10 x 5 litre
CSL-PSS	Ponceau S staining solution (500ml)	CSL-PSB	Ponceau S staining solution powder staining kit (makes 2000ml)
UPW1000	BP Grade Sterile Water, 1000ml		
RFW250	RNase-Free Water, 1x250ml	RFW50X5	RNase-Free Water, 50x5ml

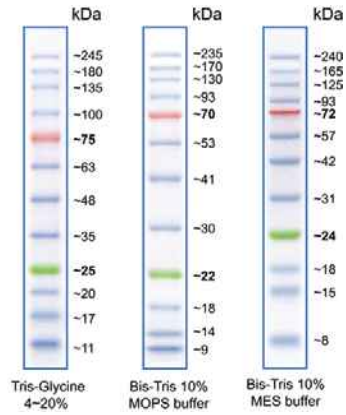
Protein Markers

Stable for up to 2 years if stored at -20°C and supplied pre-stained in gel loading buffer for direct loading, Cleaver Scientific PINK Plus and BLUE Wide Range recombinant protein markers are perfect for SDS-PAGE applications.

Sizes range from 10-175kDa for PINK Plus and 10-245kDa for BLUE Wide Range, making both markers suitable for accurate molecular weight determination of most cellular proteins.
Each marker is covalently bound to a pink or blue colour chromaphore to produce a ladder of evenly interspersed bands of uniform intensity. Coloured reference bands serve as visual indicators of electrophoresis run progression and the efficiency of western transfer onto membranes following SDS-PAGE. Both PINK Plus and BLUE Wide Range markers can be detected at volumes as low as 2.5µl per well.



PPL Pink Plus



BBL Blue Wide Range

Technical Specifications

Cat. No.	CSL-PPL	CSL-BBL
Size Range	10-175kDa	10-245kDa
Number of Bands	11	12
Reference Bands	10, 40 and 90kDa; blue	25 and 75kDa; green & red
Contents	maximum 2.2mg total protein in 15% (v/v) glycerol, 2% SDS	maximum 2.4mg total protein in 15% (v/v) glycerol, 2% SDS
Volume Supplied	500µl	500µl
Storage	3 months at 4°C & 24 months at -20°C	
Loading Volume	2.5-5µl/well	
Number of Applications	100-200	
Source	recombinant proteins, various sources	

Blotting membranes

Used in Western blotting, Slot and Dot blotting, Southern and Northern blotting. PVDF with nitrocellulose (proteins) and nylon (RNA and DNA) membranes are available for different application needs and in different formats. Membranes are supplied in sheet form and as a 3m. roll which can be cut to size to fit experimental needs. These membranes are suitable for transfer of proteins and nucleic acids from polyacrylamide and agarose gels. Offered in 0.2µm and 0.45µm.

Blot absorbent filter paper

This blot-absorbent filter paper is supplied in packs of 50 and in sizes of 10x10cm and 20x20cm. Its 1mm thick texture and high buffer retention properties, being able to absorb twice its own weight in buffer, allow it to exert the gel-membrane compression needed for efficient transfers.

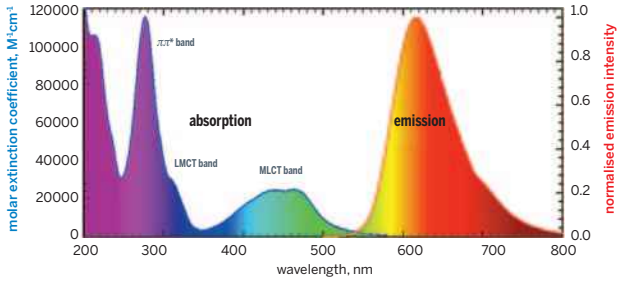
Ordering Information

PROTEIN MARKERS			
CSL-PPL	Pink Plus Prestained Protein Ladder, 10-175kDa, with 10, 40 & 90kDa reference bands, 1x 500µl vial.	CSL-BBL	Blue Wide Range Prestained Protein Ladder, 10-245kDa, with 25 & 75kDa reference bands, 1x 500µl vial.
BLOTTING MEMBRANES AND ROLLS			
CSL-RNC45	Nitrocellulose roll, 0.3x3m (w x l), 0.45µm	CSL-RNY45	Positively charged supported nylon, 0.24x3m (w x l)
CSL-RNC2	Nitrocellulose roll, 0.3x3m (w x l), 0.2µm	CSL-RNY2	Positively charged supported nylon, 0.24x3m (w x l)
PVDF0.2S	25 Pre-cut PVDF 20 x 20 cm 0.2 µm	PVDF0.2R	Roll PVDF 24 cm x 3 m, 0.2µm
PVDF0.45S	25 Pre-cut PVDF 20 x 20 cm 0.45µm	PVDF0.45R	Roll PVDF 24 cm x 3m, 0.45µm
BLOT ABSORBENT FILTER PAPER			
CSL-BP1010	Blot-Absorbent Filter paper, 10x10cm, pack of 50	CSL-BP2020	Blot-Absorbent Filter paper, 20x20cm, pack of 50

reagents & CHEMICALS

Protein Gel Staining

EZEE RubyPro is a ready to use kit for rapid and sensitive protein staining of 1D and 2D SDS PAGE gels. It enables high contrast and optimal visualization and quantitation of proteins. The staining procedure is a simple 220 minute, three step protocol. The fluorescent stain involves simple dye-binding mechanisms rather than chemical reactions that could alter protein functional groups. Thus, downstream applications are not affected and after staining, proteins can be analysed by mass spectrometry directly. The dye has optimal excitation at 302 and 470 nm, with maximum emission at approximately 610 nm.
EZEE RubyPro can be excited with UV-light transilluminator, 405, 445, 473-488 nm laser sources or 470nm blue LED light source.



KEY FEATURES

- High purity dye: >98%
- Optimal signal to background ratio
- Strong, uniform and reproducible signal from 0.2ng to 10ng protein
- Fast staining protocol (220 min)
- Convenient: ready to use kit - fixing and de-staining solutions included in the kit
- Mass spectrometry compatible

EZEE UltraBlue is a sensitive, safe and environmentally friendly protein stain compatible with mass spectrometry. EZEE UltraBlue is an enhanced Coomassie-based protein stain formulated for fast and sensitive protein detection without the involvement of hazardous chemicals such as methanol and acetic acid. Protein detection limits are as low as 10ng and visualization can be achieved in less than 1 hour

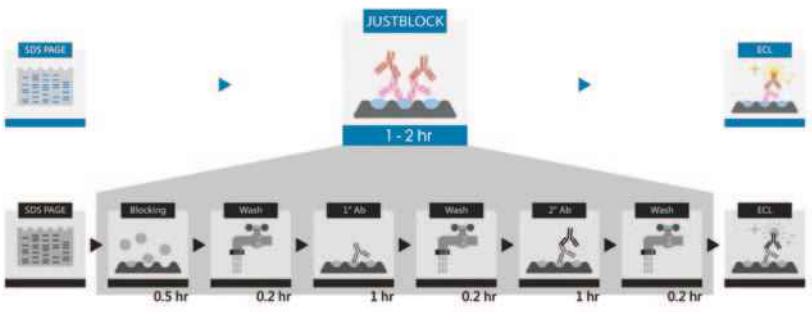
KEY FEATURES

- Applications includes: native PAGE, SDSPAGE, isoelectric focusing, and 2D gels
- Sensitive – detection of protein concentration as low as 10 ng
- Speed - optimal protein bands visualization within 10 minutes
- Safe - absence of hazardous chemicals such as methanol, acetic acid, and other toxic agents

Blocking Buffer

JUSTBLOCK is an all-in-one blocking solution for Western blot analysis. By all-in-one we refer to its capability to perform in only one step, blocking, primary and secondary antibodies hybridization as well as enhancing the signal developed from HRP (horseradish peroxidase) or AP (alkaline phosphatase) substrates. JUSTBLOCK therefore functions as both blocker and enhancer in Western analysis

JUSTBLOCK: Western Blocking Solution and Signal Enhancer



KEY FEATURES

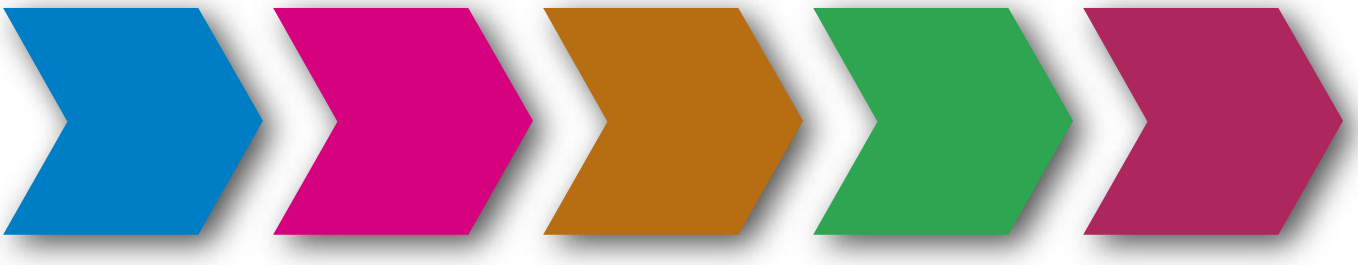
- Time-saving 3 steps in one: Block the membrane and dilute 1° & 2° Abs in one step
- Enhance antibody signal: It shows a two- to five-fold increase in signal intensity for most protein targets, enabling low concentration proteins to be detected
- Universal antibody diluent: Ready-to-use dilution buffer for most 1° & 2° Abs
- Effective with any ECL substrates: the signal can be developed with both HRP (horseradish peroxidase) and AP (alkaline phosphatase) substrates
- Compatible with PVDF & NC membrane: Regardless of the pore size, JUSTBLOCK minimises the background from non-specific protein binding
- Improve protein detection: Improve the binding process of target proteins, so that specific antibodies can bind more effectively

Ordering Information

PROTEIN GEL STAINING		BLOCKING BUFFER	
RubyProS	EZEE Rubypro protein staining kit: Regent A 50ml & Reagent B 50ml; total 100ml	JUSTBLOCK	EZEE JUSTBLOCK Western Blocking solution and signal enhancer, 500ml
RubyProL	EZEE Rubypro protein staining kit: Regent A 250ml & Reagent B 250ml; total 500ml		
BLUEPRO	EZEE UltraBlue protein staining solution, 500ml		

ECL Substrates for Western Blotting

The Lumi range of ECL substrates are luminol-based enhanced chemiluminescent substrates which produce sensitive signals and are compatible with antibodies conjugated with horseradish peroxide (HRP).



For more information on Enhanced Chemiluminescence Reagents

LumiGO is an ECL substrate with stable light output for low picogram detection level. The formulation provides a low background for a high signal to noise ratio.

Recommended antibodies dilutions

Primary: 1:500 - 1:5,000
Secondary: 1:20,000 - 1:100,000
(from 1 mg/mL stock solution)

KEY FEATURES

- Low picogram detection
- Long signal duration
- Working solution stable for at least three days
- The best entry level ECL substrate on the market
- Stable for 1 year at room temperature. Product is shipped at ambient temperature

LumiPRO is our top performance product with an extremely high signal intensity and stable light output for low femtogram detection level. The formulation provides a low background for a high signal to noise ratio.

Recommended antibodies dilutions

Primary: 1:5,000 - 1:100,000
Secondary: 1:100,000 - 1:500,000
(from 1 mg/mL stock solution)

KEY FEATURES

- Low femtogram detection
- The ECL substrate with the highest signal on the market
- Working solution stable for at least three days
- Low antibody consumption to save money
- Working solution stable for three days at least 8 hours
- Stable for 1 year at room temperature. Product is shipped at ambient temperature

Ordering Information

ECLONE	LumiGO ECL substrate kit: 125ml Luminol/enhancer solution (A); 125ml Peroxide solution (B)
ECLULTRA	LumiPRO ECL substrate kit: 50ml Luminol/enhancer solution (A); 50ml Peroxide solution (B)