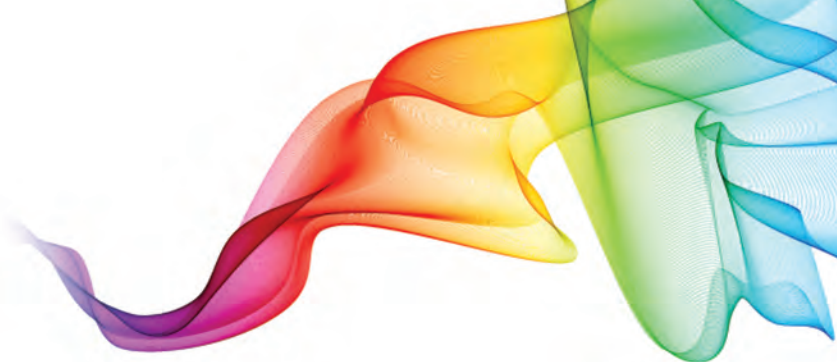


BioReagents-1



For Detection and Preparation of Nucleic acids

Ethidium Bromide (Powder and solution)

An intercalating fluorescent dye widely used for rapid detection of nucleic acids in Agarose gels and in Cesium Chloride (CsCl) gradients.

- Ethidium bromide in solution increases efficiency and safety during lab procedures.
- Applicable for both PAGE and Agarose Gel Electrophoresis and also in Blotting Techniques.
- Highly sensitive as it can detect bands of 1-5 ng.
- Detects both DNA and RNA.
- The dye-nucleic acid complex exhibits an increased (about 20 fold) fluorescent yield at an emission wavelength of 590 nm.
- The 10 mg/ml Ethidium Bromide Solution can be used as provided or diluted for gel staining.
- Suspected carcinogen/mutagen and must be handled with caution.

| Product Code | Product Name | CAS Number | Packing Unit |
|--------------|--|------------|----------------------|
| 16201 | Ethidium Bromide Solution (Activity – min. 10 mg/ml) | — | 10ml |
| 17220 | Ethidium Bromide extrapure | 1239-45-8 | 10mg, 250mg, 1g & 5g |
| 93079 | Ethidium Bromide for molecular biology | 1239-45-8 | 1g & 5g |

SRL also offers safe substitutes for Ethidium Bromide Staining which are eco-friendly and non-carcinogenic in nature and useful for detection of nucleic acids in Agarose gels.

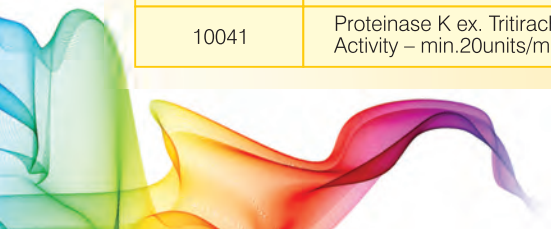
| Product Code | Product Name | Packing Unit | Application |
|--------------|----------------------------|----------------------|--|
| 25834 | BioLit® SafeDye® Stain | 50 µl, 250 µl & 1 ml | <ul style="list-style-type: none">• Used for detection of double-stranded DNA, single-stranded DNA and RNA in Agarose gels.• SafeDye emits green fluorescence and has a fluorescence excitation maxima when bound to nucleic acid at approx. 290-320nm and emits at 490nm. |
| 50358 | BioLit® FluroBronze® Stain | 50 µl, 250 µl & 1 ml | <ul style="list-style-type: none">• Used for viewing nucleic acids on agarose gel.• The advantage of this stain is that, it is not added to the gel matrix or the running buffers, but is mixed as a 6× loading buffer with the nucleic acid samples prior to loading onto the gel. |

Proteinase K (Lyophilized powder and solution)

An enzyme widely used in molecular biology to digest proteins and remove contamination during the preparation of nucleic acids.

- Highly effective on native proteins.
- Ideal for inactivating Endonucleases (DNase & RNase) during Isolation of DNA and RNA.
- High Specific Activity around 500 units/ml (for solution) and 30 units/mg protein (for lyophilized powders).
- Stable over wide pH range i.e from 4 to 12.5 with maximum activity between pH 6.5 to 9.5.
- Proteinase K is usually activated in presence of denaturing agents such as Sodium Dodecyl Sulphate (SDS).
- Usually denatured by subsequent Phenol extraction and it can undergo auto digestion during long incubation period.
- Shelf life of 5 years with storage conditions at –20°C.

| Product Code | Product Name | CAS Number | Packing Unit |
|--------------|--|------------|-------------------------------|
| 36331 | Proteinase K Solution (20 mg/ml) Activity – min. 500units/ml | — | 1 ml, (5×1ml) & (5×5ml) |
| 49936 | Proteinase K ex. Tritirachium Album (Type A) for molecular biology Activity – min. 30units/mg protein (high activity)), Lyophilized powder DNA, RNA, Protease not detected | 39450-01-6 | 10mg, 25mg, 100mg, 500mg & 1g |
| 26309 | Proteinase K ex. Tritirachium Album (Type B) for biochemistry Activity – min.30units/mg protein (high activity), Lyophilized powder | 39450-01-6 | 10mg, 25mg, 100mg, 500mg & 1g |
| 10041 | Proteinase K ex. Tritirachium Album (Type C) for molecular biology Activity – min.20units/mg protein, Lyophilized powder | 39450-01-6 | 10mg, 25mg, 100mg, 500mg & 1g |



Chloroform: Isoamyl Alcohol (24:1)

A pre-mixed solution of 24 parts Chloroform to 1 part Isoamyl Alcohol used in nucleic acid purification or extraction procedures.

| Product Code | Product Name | CAS Number | Packing Unit |
|--------------|--|------------|---------------|
| 85563 | Chloroform: Isoamyl Alcohol (24:1) for Molecular Biology | — | 100ml & 500ml |

Phenol: Chloroform: Isoamyl Alcohol (25:24:1)

One-Step ready-to-use mixture for extraction of cell components especially protein from DNA and RNA preparation.

- Saturated with 10mM Tris HCl, pH 8.0 & 1mM EDTA

| Product Code | Product Name | CAS Number | Packing Unit |
|--------------|---|-------------|----------------------|
| 69031 | Phenol: Chloroform: Isoamyl Alcohol (25:24:1) for molecular biology | 136112-00-0 | 100ml, 250ml & 500ml |

For Detection of Sulfhydryl group and Peroxidase activity

Ellman's Reagent or 5,5'-Dithiobis(2-Nitro Benzoic Acid) or DTNB

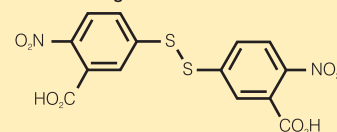
A reagent used to detect free sulfhydryl (thiol) content in peptides and proteins by absorption measurements. DTNB reacts with a free sulfhydryl group to yield a mixed disulfide and 2-nitro-5-thiobenzoic acid (NTB), a measurable yellow-colored product with molar extinction coefficient of $14.15 \text{ mM}^{-1} \text{ cm}^{-1}$ at 412 nm.

- Easy determination of total sulfhydryl groups, free sulfhydryl or protein bound sulphhydryl group in solutions or biological samples.
- Can be used to quantitate sulfhydryl in proteins, cells and plasma by absorption measurement.
- Product applicable in Protein Labelling techniques and also in studies of Cell Viability & Proliferation.
- Suspected carcinogen/mutagen and must be handled with caution.

Specification:

CAS Number: 69-78-3
Chemical Formula: $\text{C}_{14}\text{H}_8\text{N}_2\text{O}_8\text{S}_2$
Molecular Weight: 396.35
Description: A yellow crystalline powder
Solubility: 5% soln in methanol is clear & yellow
Assay: min 98%
Melting Point: 239-241° C
Sulphated Ash: max 0.1%

Ellman's Reagent



| Product Code | Product Name | Packing Unit |
|--------------|---|-------------------|
| 32363 | 5,5'-Dithiobis(2-Nitro Benzoic Acid) extrapure (Ellman's Reagent, DTNB) | 1g, 5g, 10g & 25g |

3,3'-Diaminobenzidine (DAB) and 3,3'-Diaminobenzidine Tetrahydrochloride Hydrate (DAB.4HCl) (powders and solutions)

DAB is widely used in Immunohistochemistry and Immunocytochemistry as a precipitating substrate for detection of peroxidase activity.

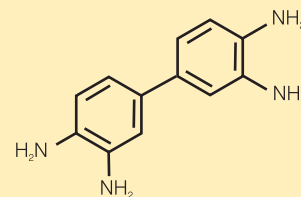
- In the presence of horseradish peroxidase and hydrogen peroxide, DAB oxidatively polymerizes to an insoluble brown polymer.
- Also used in Immunohistochemical staining of nucleic acids and proteins.
- 3,3'-Diaminobenzidine Tetrahydrochloride (DAB.4HCl) is a water-soluble preparation of 3,3'-Diaminobenzidine.
- DAB is a suspected carcinogen and must be handled with caution.

Specification: For DAB

CAS Number: 91-95-2
Chemical Formula: $\text{C}_{12}\text{H}_{14}\text{N}_4$
Molecular Weight: 214.27
Assay: min 98%

Specification: For DAB.4HCl

CAS Number: 868272-85-9
Chemical Formula: $\text{C}_{12}\text{H}_{14}\text{N}_4 \cdot 4\text{HCl} \cdot x\text{H}_2\text{O}$
Molecular Weight: 360.11
Assay: min 98%
Description: A pinkish-brown crystalline powder
Solubility: 2% aq soln is clear & reddish-brown
Sulphated Ash: max 0.05%
Sensitivity to Se: passes test
Water (KF): max 8%



| Product Code | Product Name | Packing Unit |
|--------------|--|----------------|
| 94524 | 3,3'-Diaminobenzidine (DAB) | 5g, 25g & 100g |
| 17076 | 3,3'-Diaminobenzidine Tetrahydrochloride Hydrate (DAB.4HCl) extrapure AR | 1g, 5g & 25g |

SRL also offers

| | | |
|-------|---|-------|
| 18897 | 3,3'-Diaminobenzidine Buffer (DAB buffer solution) | 250ml |
| 98465 | 3,3'-Diaminobenzidine Tetrahydrochloride (DAB.4HCl) Buffer Substrate Solution for Peroxidase (DAB tetrahydrochloride buffer solution) | 100ml |

For Chemistry and Diagnostics

2,2'-Azobis (2-Methylpropionamide) Dihydrochloride (AAPH)

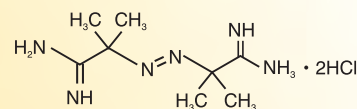
AAPH is a heat-sensitive, water-soluble, free radical initiator (azo compound) that induces oxidative stress by causing cellular damage associated with lipid peroxidation, protein modification, characterization of antioxidants, hemoglobin oxidation and DNA strand breakage.

Key Factors:

- Generally used for investigating oxidative stability of drugs.
- Decomposes on exposure to UV.

Specification:

Molecular Formula: $C_8H_{18}N_6 \cdot 2HCl$
CAS Number: 2997-92-4
Molecular Weight: 271.19
Assay: min.98%



| Product Code | Product Name | Packing Unit |
|--------------|---|----------------|
| 47138 | 2,2'-Azobis (2-Methylpropionamide) Dihydrochloride (AAPH) extrapure | 5g, 25g & 100g |

5-Bromo-5-Nitro-1,3-Dioxane (Bronidox)

Bronidox is an antimicrobial agent, having broad spectrum microbicidal activity against bacteria, yeast and fungi. It usually acts by bringing out the oxidation of essential protein thiol causing inhibition of enzyme activity and subsequent inhibition of microbial growth.

Key Factors:

- Suitable for the preservation of surfactant preparations which are rinsed off after application and do not contain secondary amines.
- It is temperature-stable up to 40°C and is not subject to changes when applied in surfactant preparations in the pH range of 5 to 8.

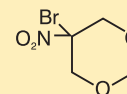
- Permissible maximum concentration is 0.1% active substance.
- In Immunology, it may be used for preserving antibodies and antisera in 0.1% - 0.5% concentration (to avoid use of sodium azide).

Product Application:

Diagnostic Kits, Biochemistry, Molecular Biology, Cleansing (hand, hair, personal care products).

Specification:

Molecular Formula: $C_6H_8BrNO_4$
CAS Number: 30007-47-7
Molecular Weight: 212.00
Assay: min.99%



| Product Code | Product Name | Packing Unit |
|--------------|--|--------------|
| 51879 | 5-Bromo-5-Nitro-1,3-Dioxane (Bronidox) extrapure | 1g & 5g |

DAPI Dihydrochloride

DAPI is a nuclear fluorochrome that is commonly used to stain DNA and chromosomes. It forms a fluorescent complex by attaching in the minor groove of A-T rich sequences of DNA.

The excitation maximum for DAPI bound to dsDNA is 358 nm and the emission maximum is 461 nm. DAPI can be excited with a xenon or mercury-arc lamp or with a UV laser.

Key Factors:

- More sensitive than ethidium bromide, thus replacing it in staining DNA in agarose gels.
- It can be used on either fixed or live cells, although its low permeability in live cells demands that higher concentrations be used.

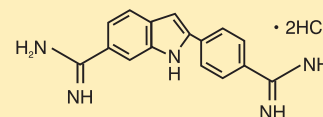
- Useful in measuring nuclear content and sorting chromosomes in flow cytometry.
- Useful for microscopic detection of nuclei and nuclear DNA in normal and apoptotic cells.

Product Application:

Immunofluorescent staining of cells, Assessment of Apoptosis, Histochemical process, Mycoplasma detection and staining of DNA.

Specification:

Molecular Formula: $C_{16}H_{15}N_5 \cdot 2HCl$
CAS Number: 28718-90-3
Molecular Weight: 350.25
Assay: min.95%



| Product Code | Product Name | Packing Unit |
|--------------|--------------------------------|--------------|
| 18668 | DAPI Dihydrochloride extrapure | 25mg |

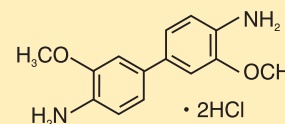
o-Dianisidine Dihydrochloride

O-Dianisidine dihydrochloride is a colorimetric peroxidase substrate suitable for use in ELISA procedures. This substrate produces a soluble end product that is yellow-orange in color and can be read spectrophotometrically at 405 nm.

Product application: The compound has been used as a substrate to measure the oxidase activity of copper and also semi-quantitatively measure lactate, uric acid, and glucose.

Specification:

Molecular Formula: $C_{14}H_{16}N_2O_2 \cdot 2HCl$
CAS Number: 20325-40-0
Molecular Weight: 317.21
Assay: min.98%



| Product Code | Product Name | Packing Unit |
|--------------|---|--------------|
| 13261 | o-Dianisidine Dihydrochloride extrapure | 5g & 25g |

Diethylamino Sulfurtrifluoride (DAST)

Diethylaminosulfur trifluoride (DAST) is a fluorinating reagent used for the synthesis of organofluorine compounds having influence in both medicinal chemistry and agrochemical research fields.

Key Factors:

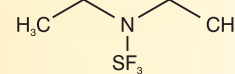
- Diethylaminosulfur trifluoride is a useful selective and multipurpose activating reagent for replacing oxygen with fluorine in organic compounds under very mild conditions.
- The ready availability of molecules, low cost and stability

makes it very desirable in selective fluorination and cross-coupling reactions.

Product Application: Useful in fluorination of alcohols, aldehydes, ketones, polyfunctional molecules such as cephalosporins, carbohydrates, proteins, steroids, terpenoids, glycosides and peptides.

Specification:

Molecular Formula: $C_6H_{10}NSF_3$
CAS Number: 38078-09-0
Molecular Weight: 161.19
Assay: min.95%



| Product Code | Product Name | Packing Unit |
|--------------|--|--------------|
| 22499 | Diethylamino Sulfurtrifluoride (DAST) extrapure AR | 1g & 5g |

2,2-Diphenyl-1-Picrylhydrazyl (DPPH)

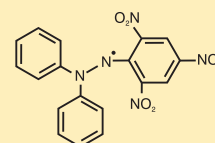
DPPH or 2, 2-diphenyl-1-picrylhydrazyl a stable free radical that is commonly used to evaluate the ability of compounds to act as free radical scavengers or hydrogen donors and to measure the antioxidant activity.

Key Factors:

- Allows visual monitoring of the reaction, and the number of initial radicals can be counted from the change in the optical absorption at 520 nm or in the EPR signal of the DPPH.

Specification:

Molecular Formula: $C_{18}H_{12}N_5O_6$
CAS Number: 1898-66-4
Molecular Weight: 394.32
Assay: min.95%



| Product Code | Product Name | Packing Unit |
|--------------|--|----------------|
| 29128 | 2,2-Diphenyl-1-Picrylhydrazyl (DPPH) extrapure | 250mg, 1g & 5g |

Ficoll® 400 (Polysucrose 400)

Ficoll 400® is a highly branched polymer formed by the copolymerization of sucrose and epichlorohydrin. Most commonly used as a density gradient medium for the separation and isolation of eukaryotic cells, organelles and bacterial cells.

Key Factors:

- Has lower osmotic pressure than sucrose solutions of equal density, resulting in better preservation of the functional and morphological integrity of cells and organelles.
- Because of its high molecular weight and low content of dialyzable material, Ficoll® 400 does not normally penetrate biological membranes.

- Collection of cells can be achieved at much lower density (i.e. up to 1.2 g/ml can be attained) in Ficoll® gradients than in sucrose gradients.

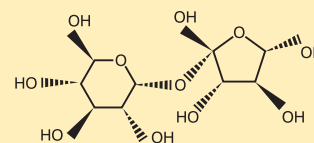
- Hydrophilic and extremely water-soluble.

Product Application:

Electrophoresis & Immunological studies, Nucleic Acid Hybridization, Cell Separation & Stabilization and Preparation of Defined Culture Media.

Specification:

CAS Number: 26873-85-8
Molecular Weight: 400000 - 550000



| Product Code | Product Name | Packing Unit |
|--------------|-----------------------------------|----------------|
| 45460 | Ficoll 400® for molecular biology | 5g, 25g & 100g |

Marfey's Reagent (FDAA, 1-fluoro-2-4-dinitrophenyl-5-L-alanine amide)

Marfey's Reagent is a derivatizing agent, generally used for the resolution of complex mixtures of DL-amino acids, amines, and peptides / amino acids.

Marfey's Reagent provides quick and easy detection as it reacts with primary amines to enable the separation and quantitation of optical isomers of amino acids by reverse-phase chromatography.

Key Factors:

- The dinitrophenyl alanine amide moiety strongly absorbs at 340 nm, allowing easy detection in the subnanomolar range by UV.
- Marfey's Reagent has a major advantage over other precolumn derivatizations as,
 - It provides the possibility to carry out chromatography on

any multipurpose HPLC instruments without column heating.

- Detection at 340nm can be insensitive to most solvent impurities.

- Enables simultaneous detection of proline in a single chromatographic run.

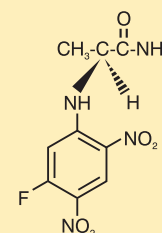
- Marfey's Reagent provides an attractive and inexpensive alternative as compared to amino acid analyzer.

Product Application:

For derivatization and resolution of amino acids.

Specification:

Molecular Formula: $C_9H_9FN_4O_5$
CAS Number: 95713-52-3
Molecular Weight: 272.19
Assay: min.98%



| Product Code | Product Name | Packing Unit |
|--------------|-------------------------------|------------------|
| 43804 | Marfey's Reagent extrapure AR | 50mg, 200mg & 1g |

Bulk packs available on request

Please contact: