Reagents for Antibody Detection

Antibody Modification

Fluorescence Marker Kit 550

92813 2-8°C ◆ NEW — ***BioChemika*** — 1 kit

For fluorescent labelling of proteins, peptides, and amino-modified nucleotides. Comprises phosphate buffer solution, bicarbonate buffer solution, and Fluorescent Orange 548 reactive.
Sufficient for 5 reactions labelling 1.5 mg of protein each.
This kits provides the required reagents for labelling proteins with Fluorescent orange 548. This label shows similar properties as Cy® 3. This means among others bright fluorescence, spectral match with corresponding laser line, good water solubility. Together with Fluorescent red 646 it is ideally suited for energy transfer studies, hybridization assays and flow cytometry.
® Registered Trademark of Amersham Biosciences Limited

Fluorescence Marker Kit 650

92821 2-8°C ◆ NEW — ***BioChemika*** — 1 kit

For fluorescent labelling of proteins, peptides, and amino-modified nucleotides. Comprises phosphate buffer solution, bicarbonate buffer solution, and Fluorescent Orange 646 reactive.
Sufficient for 5 reactions labelling 1.5 mg of protein each.
This kits provides the required reagents for labelling proteins with Fluorescent red 646. This label shows similar properties as Cy® 5. This means among others bright fluorescence, spectral match with corresponding laser line, good water solubility. Together with Fluorescent orange 548 it is ideally suited for energy transfer studies, hybridization assays and flow cytometry.
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Fluorescein isothiocyanate isomer I

F 7250 2-8°C — (Fluorescein 5-isothiocyanate; FITC)

CAS No. 3326-32-7	50 mg
$C_{21}H_{11}NO_5S$ FW 389.4	100 mg
suitable for protein labeling, minimum90% (HPLC), powder	250 mg
	500 mg
	1 g
Fluorescence. . . . . λ_{ex} 492 nm; λ_{emm} 518 nm (green)	5 g
Color. . . . . green	

References
E. Harlow and D. Lane, ed., *Antibodies: A Laboratory Manual* , Cold Spring Harbor, NY (1988), 353-355
R: 42 S: 22-24/25

StarBright® Green Isothiocyanate Protein Labeling Kit

MT3000 2-8°C ◆ WET ICE NEW — 1 kit

The Isothiocyanate-StarBright® Green Conjugation Kit is suitable for the conjugation of proteins such as polyclonal and monoclonal antibodies for use in immunohistochemical or immunofluorescent techniques. In addition, the ITCN conjugation kit may also be used with peptide hormones, cytokines, growth factors and other proteins.

Bioassay

Kits

Alkaline Phosphatase Detection Kit

MT1000 2-8°C ◆ WET ICE — 1 kit

StarBright® Green Substrate is a fluorogenic substrate specific for the detection of alkaline phosphatase-conjugated secondary systems. Alkaline phosphatase (AP) cleaves the phosphate group of the non-fluorescent StarBright Green Substrate resulting in an intense fluoroscent signal which has an optimal excitation wavelength of 440-450 nm and emission maximum of 505 nm. The large difference between the emission wavelength and the excitation wavelength, also known as Stoke's shift, results in lower levels of background fluorescence and higher detection sensitivity.

StarBright Green Substrate exhibits the following characteristics:
- Low molecular weight (approximately 500 daltons)
- High quantum yield
- Large Stoke's shift (55-65 nm)
- High photostability with no photobleaching
- High water solubility and reconstituted stability
- Expected detection limits of 2 x 10^{-7} units or 1 x 10^{-18} moles of alkaline phosphatase.

Alkaline Phosphatase Detection Kit, Fluorescence

APF -20°C ◆ WET ICE NEW — 1 kit

The kit contains buffers, substrate and control enzyme for an easy and rapid alkaline-phosphatase reporter gene activity assay.
The assay used is fluorometric and therefore is 10 -100 more sensitive than the colorimetric measurement. It is linear over a wide range of enzyme concentrations, which makes it particularly well suited for comparative analysis.
The reporter gene, encoding for alkaline-phosphatase, offers great advantages:
- The enzyme is highly stable.
- The assay is safe and easy to use. It provides rapid and reproducible results.
- When using the mutated version of the human placental alkaline phosphatase (SEAP) which is secreted out of the cells, enzyme activity in the same cell sample can be measured nondestructively and repeatedly over time using an aliquot of the culture medium. This saves the time required for cell extract preparations.

200 µl sufficient for 300 reactions
Components:
4-Methylumbelliferyl phosphate disodium salt,
Fluorescent assay buffer,
Magnesium chloride solution,
Control enzyme,

Bioassay

Kits

β-Galactosidase Reporter Gene Activity Detection Kit

GAL-A −20°C DRY ICE — 1 kit

The substrate used in this kit is o-nitrophenyl β-D-galactopyranoside (ONPG). ONPG generates a yellow color upon hydrolysis. This kit provides all components needed for detection of β-galactosidase activity by a colorimetric assay in animal cells or tissues.

1 kit sufficient for 65 tests
0.2 µm filtered

Components:
2× assay buffer, 10 mL
5× lysis buffer, 25 mL
Control enzyme, 100 units
Detailed technical bulletin,
Stop solution, 35 mL

References
Current Protocols in Molecular Biology , New York, NY (1996), Ch. 9.6-9.7

R: 36/37/38 S: 26-36

β-Galactosidase Reporter Gene Staining Kit

GAL-S −20°C DRY ICE — 1 kit

The substrate used in this kit is X-gal (5-bromo-4-chloro-3-indolyl β-D-galactopyranoside) which results in an indigo blue-colored staining of transfected cells and tissues. This test provides a method for determining the percentage of transfected cells that are expressing *Lac*Z or for microscopically visualizing reporter gene expression in tissue sections.

For histochemical staining of animal cells or tissues.
0.2 µm filtered
1 kit sufficient for 100 tests (using a 3.5 cm dish)

Components:
10× Fixation Solution, 15 mL
10× PBS, 60 mL
Detailed technical bulletin,
X-Gal, 150 mg
Reagent A, 1.5 mL
Reagent B, 1.5 mL
Reagent C, 1.5 mL

R: 24/25-26-34-40-43 S: 26-36/37/39-45-51

β-Glucuronidase Fluorescent Activity Detection Kit

GUS-A −20°C DRY ICE — 1 kit

The substrate used in this kit is MU-GlcA (4-methylumbelliferyl β-D-glucuronide), a widely used fluorogenic substrate for determination of glucuronidase activity.

For quantitative assay of β-glucuronidase gene products in plant or animal cell lysates.

Features and Benefits
- Fluorescent detection for quantitative and qualitative measurement
- Ideally suited to plant expression studies due to very low GUS activity in plants and high enzyme stability
- GUS does not interfere with plant cell function or viability

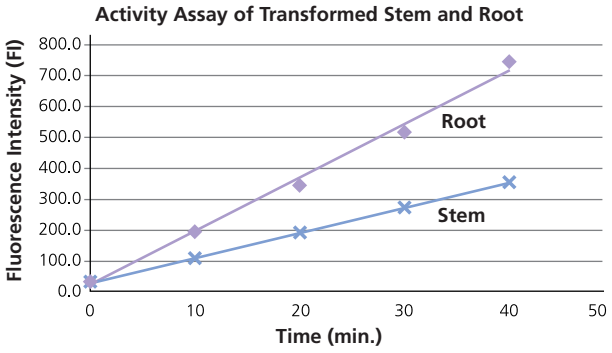
1 kit sufficient for 200 standard tests

Components:
Detailed technical bulletin, 1 each
5× extraction buffer, 25 mL
β-Glucuronidase, 1,000 units
4-MU, 25 mg
4-MU-GlcA, 25 mg
Stop solution, 100 mL

References

1. Jefferson, R.A., et al., The GUS reporter gene system. *Nature* **342**, 837-838 (1989)
2. Jefferson, R.A., et al., GUS fusions: beta-glucuronidase as a sensitive and versatile gene fusion marker in higher plants. *EMBO J.* **6**, 390-3907 (1987)
3. Kosugi, S., et al., An improved assay for beta-glucuronidase in transformed cells: methanol almost completely suppresses a putative endogenous beta-glucuronidase activity. *Plant Sci.* **70**, 133-140 (1990)
4. *Current Protocols in Molecular Biology* , New York, NY (1996), 9.6

R: 20/22-24-37/38-41 S: 53-26-36/37/39-45



Beta-glucuronidase activity in tissues of tobacco plant transformed with GUS reporter gene

β-Glucuronidase Reporter Gene Staining Kit

GUS-S −20°C DRY ICE — 1 kit

The substrate used in this kit is X-GlcA (5-bromo-4-chloro-3-indolyl β-D-glucuronide) which results in an insoluble indigo-blue precipitate in transfected cells and tissues.

The *E. coli* GUS gene is extensively used to analyze gene expression in transformed plants. Plants have low intrinsic GUS activity, and the *E. coli* gene is quite stable in plant cells. As a tag, GUS remains active at the N-terminus of fusion proteins.

Features and Benefits
- Histochemical staining of plant tissues expressing the *E. coli* GUS enzyme.
- Ideally suited to plant expression studies due to very low GUS activity in plants and high enzyme stability
- GUS does not interfere with plant cell function or viability

1 kit sufficient for 100 histochemical assays

Components:
Detailed technical bulletin,
2× Fixation buffer, 25 mL
X-GlcA, 1 vial
Reagent A, 50 mL
Reagent B, 200 µL
Reagent C, 200 µL

References

1. Jefferson, R.A., et al., The GUS reporter gene system. *Nature* **342**, 837 (1989)
2. Jefferson, R.A., et al., GUS fusions: beta-glucuronidase as a sensitive and versatile gene fusion marker in higher plants. *EMBO J.* **6**, 3901 (1987)

R: 45-46-23/24/25-36/37/38-40-41-42/43 S: 53-26-36/37/39-45-51

Bioassay

Kits

Luciferase Reporter Gene Detection Kit

LUC-1 –20°C ◆ — 1 kit

Firefly luciferase is one of the most commonly utilized reporter genes for the study of gene expression. It is an extremely sensitive, rapid, and easy to use reporter gene. The chemiluminescent reaction catalyzed by luciferase is one of the most sensitive analytical tools for measuring gene expression. The luciferase substrate contains coenzyme A for increased and sustained luminescence compared to conventional methods. This eliminates the need for automated luminometer injection of substrate and allows analysis by photographic film or scintillation counting. The lysis buffer contains polymyxin B which further enhances the signal and eliminates lysozyme treatment and freeze-thawing of cells. Cell lysis buffer is compatible with β-galactosidase assays.
1 kit sufficient for 100 assays
Components:
Luciferase assay substrate,
Luciferase assay buffer,
5× Cell culture lysis reagent,

Substrates

p-Nitrophenyl Phosphate Liquid Substrate System

N 7653 –0°C ◆ WET ICE — 100 mL

(pNPP; 4-Nitrophenyl phosphate disodium salt solution)
CAS No. 4264-83-9
liquid
A substrate for alkaline phosphatase that yields a soluble yellow end product that may be read at 405 nm. The reaction may be stopped with 3N NaOH and read at 405 nm. Recommended for ELISA (microwell) procedures, not recommended for membrane applications.
Ready-to-use.
Stable at least one year when stored below 0 °C.
R: 23/24/25-36/37/38 S: 23-26-36/37/39-45

SIGMA *FAST*™ p-Nitrophenyl Phosphate Tablets

SIGMA *FAST*™ tablet pNPP (p-nitrophenyl phosphate) has been developed for use as a soluble substrate for the detection of alkaline phosphatase activity in Enzyme Immunoassays (EIA). pNPP is the substrate of choice in high sensitivity alkaline phosphatase-based EIA assays. EIA applications using pNPP may be read in timed assays or stopped with 3N NaOH for delayed readings. SIGMA *FAST*™ require only the addition of distilled or deionized water to prepare an active substrate solution.
R: 36/37/38 S: 26-36

N 2770 –0°C — 5 sets, 50 sets

SIGMA *FAST*™ p-Nitrophenyl Phosphate Tablets
tablet, To prepare 20 mL
Each tablet set dissolved in 20 ml deionized water yields a ready-to-use buffered solution containing pNPP.

N 1891 –0°C — 5 sets, 50 sets

SIGMA *FAST*™ p-Nitrophenyl Phosphate Tablets
tablet, To prepare 5 mL
Each tablet set dissolved in 5 ml deionized water yields a ready-to-use buffered solution containing pNPP.

3,3′,5,5′-Tetramethylbenzidine (TMB) Liquid Substrate System for ELISA

T 0440 2–8°C — 100 mL, 1 L

liquid
TMB is a substrate for horseradish peroxidase. Develops a soluble blue reaction product that may be read at 370 or 655 nm. For endpoint assays the reaction may be stopped with acid, forming a yellow reaction product that may be read at 450 nm. Recommended for ELISA (microwell) procedures, not recommended for membrane applications.
Ready-to-use.
Stable at least one year at 2-8 °C.

3,3′,5,5′-Tetramethylbenzidine (TMB) Liquid Substrate System for Membranes

T 0565 2–8°C — 100 mL

liquid
TMB is a substrate for horseradish peroxidase. Develops a permanent, insoluble, dark blue reaction product. Recommended for membrane applications, not recommended for ELISA (microwell) procedures.
Ready-to-use.