

Substrates for Biochemical Assays

For Peroxidase

4-Chloro-1-naphthol (Ready-to-use solution) [for Western blotting]
 (= 4-CN (Ready-to-use solution)) 100mL **[C3384]**

Application

1. Incubate a blotting membrane with an HRP-conjugated antibody and then wash the membrane.
2. Incubate the washed membrane with 4-CN solution (Product No. **C3384**) until color development.
3. Add deionized water to stop color development.

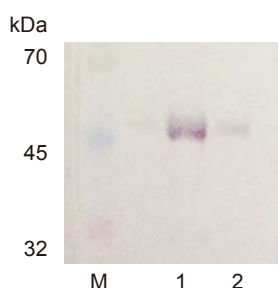


Figure 1.
An example of Western blotting by the above method

M: molecular weight marker
 1: Target protein A (Middle concentration)
 2: Target protein A (Low concentration)

AzBTS (Ready-to-use solution) [for ELISA] 100mL **[A3176]**

Application

1. Add 100 μ L of AzBTS solution (Product No. **A3176**) to each well.
2. Incubate the plate at room temperature for 30 minutes.
3. Within 1 hour from start the reaction, measure the absorbance of each well at 405 nm.

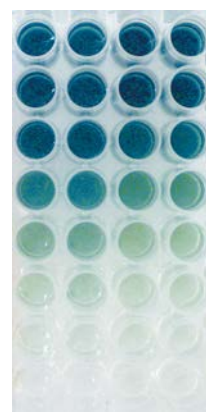


Figure 2. An example of use by the above method

Related Products

Peroxidase from Horseradish	100mg / 1g [P0073]
Anti-Protein A Chicken Polyclonal Antibody HRP Conjugate	1vial [A3187]
Anti-α Gal Chicken Polyclonal Antibody HRP Conjugate	1vial [A3195]
Goat Anti-Mouse IgG HRP Conjugate	1vial [G0407]
Goat Anti-Mouse IgM HRP Conjugate	1vial [G0417]
Goat Anti-Rabbit IgG HRP Conjugate	1vial [G0418]
Protein A HRP Conjugate	1vial [P2466]
Streptavidin HRP Conjugate	1vial [S0972]
Sheep Anti-Chicken IgY HRP Conjugate	1vial [S0999]
Streptavidin Maleimide Conjugate	1vial [T3531]

Soluble Substrates (for ELISA etc.)

For such as ELISA, substrates generating soluble dyes with peroxidase.

2,2'-Azinobis(3-ethylbenzothiazoline-6-sulfonic Acid Ammonium Salt) (= AzBTS)	1g	[A2166]
1,2-Phenylenediamine Dihydrochloride (= OPD · 2HCl)	1g / 5g	[P1144]
1,2-Phenylenediamine (= OPD)	1g / 5g	[P1805]
3,3',5,5'-Tetramethylbenzidine (= TMB)	1g / 5g	[T2573]

Soluble Substrates (for determining H₂O₂)

Substrates generating soluble dyes for determining hydrogen peroxidase (H₂O₂) by various enzyme reactions.

4-Aminoantipyrine Hydrochloride (= 4-AA · HCl)	5g / 25g	[A0257]
4-Aminoantipyrine (= 4-AA)	1g / 5g	[A2254]
5-Aminosalicylic Acid (= 5-ASA) *1	5g / 25g	[A2291]
3,5-Dichloro-2-hydroxybenzenesulfonic Acid Sodium Salt*1	25g	[D1928]
2,4-Dichlorophenol *1	1g / 5g	[D3865]
<i>N,N</i>-Dimethylaniline (= DMA) *1	1g / 5g	[D3866]
<i>N,N</i>-Diethyl-<i>m</i>-toluidine (= DMT) *1	1g / 5g	[D3868]
Sodium 3-[Ethyl(<i>m</i>-tolyl)amino]-2-hydroxy-1-propanesulfonate Hydrate (= TOOS) *1	1g / 5g	[S0805]
Sodium 3-(<i>N</i>-Ethylanilino)propanesulfonate (= ALPS) *1	200mg / 1g	[S0817]
Sodium 3-(<i>N</i>-Ethyl-3-methoxyanilino)-2-hydroxy-1-propanesulfonate (= ADOS) *1	200mg / 1g	[S0826]
<i>N</i>-(2-Hydroxy-3-sulfopropyl)-3,5-dimethoxyaniline Sodium Salt (= HDAOS) *1	200mg / 1g	[S0827]
2,4,6-Tribromo-3-hydroxybenzoic Acid (= TBHBA) *1	5g	[T1764]
3-Methyl-2-benzothiazolinonehydrazone Hydrochloride Hydrate	1g / 5g	[M2155]

*1: Used together with [A2254](#) (or [A0257](#))

Precipitate Substrates

For such as immunohistochemical staining or immunoblotting, substrates arising precipitate products with peroxidase.

3-Amino-9-ethylcarbazole (= AEC)	1g / 5g	[A2167]
4-Chloro-1-naphthol (= 4-CN)	1g / 5g	[C2291]
3,3'-Diaminobenzidine (= DAB)	1g / 5g	[D3756]
3,3'-Diaminobenzidine Tetrahydrochloride Hydrate (= DAB · 4HCl)	1g / 5g	[D3757]
<i>o</i>-Dianisidine *2	1g / 5g	[D3864]
<i>o</i>-Dianisidine Dihydrochloride *2	1g / 5g	[D3893]
<i>N,N</i>-Dimethyl-1,4-phenylenediamine Dihydrochloride *3	1g / 5g	[D3931]
1-Naphthol *3	1g / 5g	[N0864]

*2: By combining [N0864](#) and [D3931](#)

*3: Used together with [C2291](#)

For Alkaline Phosphatase

4-Nitrophenyl Phosphate (Ready-to-use solution) [for ELISA]
(= pNPP (Ready-to-use solution))

100mL [N1109]

Application

1. Add 100µL of pNPP solution (Product No. N1109) to each well.
2. Incubate the plate at room temperature for 30 minutes.
3. To terminate the reaction, add 100 µL of 1N NaOH solution (Product No. S0542) to each well.
4. Within 1 hour from start the reaction, measure the absorbance of each well at 405 nm.

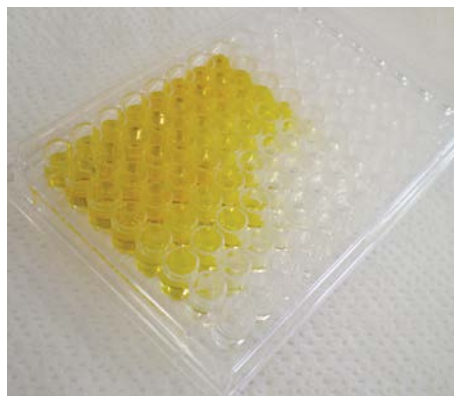


Figure. An example of use by the above method

Soluble Substrates

Phosphoric Acid 4-Nitrophenyl Ester Disodium Salt Hexahydrate (= pNPP)	1g / 5g	[D4005]
4-Nitrophenyl Phosphate Di(tris) Salt Hydrate	5g / 25g	[N0422]
1-Naphthylphosphoric Acid Monosodium Salt Monohydrate	1g / 5g / 25g	[N0452]
1-Naphthylphosphoric Acid Disodium Salt Hydrate	1g / 5g	[P0263]
2-Carboxyphenyl Phosphate	1g	[P1952]

Precipitate Substrates

For such as immunohistochemical staining or immunoblotting, substrates arising precipitate dyes with alkaline phosphatase.

Fast Blue RR Salt	5g / 25g	[B0785]
X-Phosphate p-Toluidine Salt	100mg / 1g	[B1239]
Blue Tetrazolium	1g / 5g	[B3581]
Naphthol AS-TR Phosphate	200mg	[C2250]
Nitro Blue Tetrazolium (= NBT)	100mg / 1g	[D0844]
Fast Black K Salt	5g	[F0734]
Fast Red B Salt 1,5-Naphthalenedisulfonate	1g	[F0751]
Iodonitrotetrazolium Chloride (= INT)	100mg / 1g	[I0781]
Tetranitro Blue Tetrazolium (= TNBT)	100mg / 1g	[T0250]
Variamine Blue B Diazonium Salt	5g / 25g	[V0109]

Substrates for Biochemical Assays

For β -Galactosidase

Generating Insoluble Dyes

X-Gal (5-Bromo-4-chloro-3-indolyl β -D-Galactopyranoside) ■ Blue	200mg / 1g [B3201]
Magenta-Gal (5-Bromo-6-chloro-3-indolyl β -D-Galactopyranoside) ■ Purplish red	20mg / 100mg [B3469]
Bluo-Gal (5-Bromo-3-indolyl β -D-Galactopyranoside) ■ Deep blue	20mg / 100mg [B3470]
Salmon-Gal (6-Chloro-3-indolyl β -D-Galactopyranoside) ■ Light purplish red	20mg / 100mg [C2371]

Generating Soluble Dyes

ONPG (2-Nitrophenyl β -D-Galactopyranoside) ■ Yellow	1g / 5g / 25g [N0418]
PNPG (4-Nitrophenyl β -D-Galactopyranoside) ■ Yellow	1g / 5g [N0616]

For β -Glucuronidase

X-Gluc CHA Salt (5-Bromo-4-chloro-3-indolyl β -D-Glucuronide Cyclohexylammonium Salt) ■ Blue	10mg / 100mg [B3620]
X-Gluc Sodium Salt (5-Bromo-4-chloro-3-indolyl β -D-Glucuronide Sodium Salt) ■ Blue	10mg / 100mg [B3621]

For Luciferase

D-(-)-Luciferin	10mg / 50mg [A5030]
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Every reagent in the category "Substrate" is manufactured for biochemical research.

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