

# ATTO Ez Series

*high performance reagents for Life Science research*

**ATTO Ez Series Reagents for**  
 Electrophoresis, Sample preparation, Western blotting,  
 Signal detection and Protein recovery etc,,,  
 More useful! Easy! Precisely! with ATTO's Reagents!!



*ATTO's Ez Series reagents  
 enable to provide more variable, economical,  
 and high performance in your experiments.*

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Phosphate Buffer Saline *WSE-7430 EzPBS(-)*

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## Sample Preparation Sample Preparation for Electrophoresis, Fluorescence-Labeling of Protein

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## Electrophoresis

### Buffer for Electrophoresis

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## Electrophoresis

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Molecular Weight Marker *AE-1440 EzStandard*  
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## Electrophoresis

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CBB Stain *AE-1340 EzStain Aqua*  
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Protein Fluorescent Labeling kit *WSE-7010 EzLabelFluoroNeo*

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## Blocking & Washing

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Blocking Reagent *AE-1475 EzBlockChemi*  
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Buffer for Washing Membrane *WSE-7236 EzTBS*  
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### HRP Chromogenic/Chemiluminescence Substrate

HRP Chromogenic Substrate *AE-1490 EzWestBlue*  
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## Stripping

### Strip Antibody and Reprobe

Antibody Stripping Reagent *WSE-7240 EzReprobe*

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## Membrane/Filter

### Blotting Membrane & Filter

PVDF Membrane for Blotting *WSE-4050~3 Clear Blot·P +membrane*  
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## DNA Electrophoresis Loading Buffer, Electrophoresis Buffer, Molecular Weight Marker, Gel Stainiry, DNA Recovery

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Running Buffer *WSE-7051 EzRunTBE* Page 5  
Molecular Weight Marker *WSE-7030 EzDNALadder* Page 6  
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Fluorescent Stain *WSE-7130 EzFluoroStainDNA* Page 8  
EtBr Removal Column *WSE-7410 Ocolmun*  
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## For Luminometer

### Antioxidant Measurement, O<sub>2</sub><sup>-</sup> Measurement, Fluorescent Reagent kit for measuring Live Bacteria

Near Infrared Super Oxide Detection *AB-2980 NIR-CLA*  
Super Oxide Detection *AB-2950 MPEC*  
Antioxidant Measurement *AB-2970 CLETA-S*  
Viable Bacteria Measurement *AB-2960 BactoLumix*

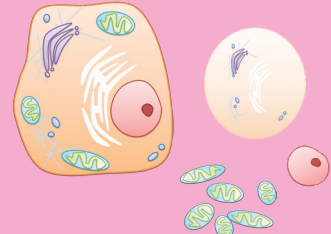
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More Details:ATTO HP <http://www.atto.co.jp>

- Catalog Download
- (M)SDS Download
- Instruction Manual Download
- Sample Order etc

# Sample Extraction

For fractionating organelle and extracting protein from animal cell



For protein extracting from animal cultured cells and tissue

## Whole Protein Extraction Reagent kit

WSE-7420 EzRIPA Lysis kit

RIPA Lysis buffer for extracting protein from animal cells and tissues.



EzRIPA Lysis kit

- ✓ Sample preparation for electrophoresis, immunoprecipitation, ELISA, enzyme activity experiments, etc
- ✓ Standard set includes Protease inhibitor and Phosphatase inhibitor
- ✓ For HEPES buffer without amino and phosphate groups, available for labeling experiments
- ✓ Complete to operate within 1 hour

### WSE-7420 EzRIPA Lysis kit (2332336)

<b>Package</b>	① EzRIPA Lysis buffer: 20mM HEPES(pH7.5), 1% IGEPAL® CA630, 0.1%SDS, 0.5% Deoxycholic acid, 150mM Sodium Chloride ② Protease inhibitor ③ Phosphatase inhibitor
<b>Volume</b>	100mL For 100 samples
<b>Applicable Amount</b>	1 sample: ~ 2 × 10 <sup>7</sup> cell (φ 10cm Dish Confluent) 50 ~ 100mg
<b>Storage</b>	Cold storage, Store Inhibitor at -20 °C (Refrigerate on transportation is possible), 1 year

※ IGEPAL® CA-630 is the same as NonidetP-40, and a trade mark registration of Rhone-Poulenc AG Co.

Phosphate buffered saline for cellular experiments

## Phosphate Buffer Saline PBS (-)

WSE-7430 EzPBS(-)

General PBS for cell preparation



EzPBS(-)

- ✓ General phosphate buffered saline (NOT include Calcium, magnesium) for cellular experiments
- ✓ 10x concentrated reagent -Dilute with distilled water before use  
Tween and EDTA can be added
- ✓ Sterilized, Free of DNase
- ✓ Available for Western blotting, ELISA, immunohistochemical staining and so on.

### WSE-7430 EzPBS(-) (2332380)

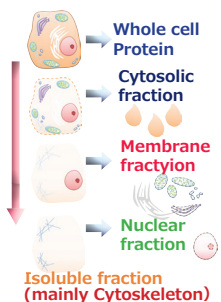
<b>Components</b>	PBS (-) pH7.4 x 10 concentrated solution Final concentration (1.76mM KH <sub>2</sub> PO <sub>4</sub> , 10mM Na <sub>2</sub> HPO <sub>4</sub> ·12H <sub>2</sub> O, 2.7mM KCl, 137mM NaCl ) Sterilized (Free of DNase)
<b>Volume</b>	1L/Bottle
<b>Applicable Amount</b>	For 10L
<b>Storage</b>	At room temperature

From animal cell

## Organelle Fractionation and Extraction kit

WSE-7421 EzSubcell Extract

Reagent kit for fractionating and extraction cytoplasm, membrane, nucleus and insoluble protein from animal cells



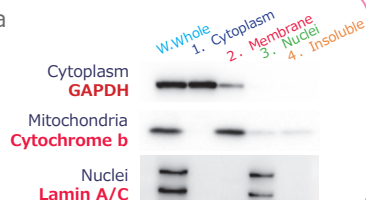
- ✓ Electrophoresis, ELISA, Immunoprecipitation,CHIP assay and Enzymatic assay etc
- ✓ Simple operation by centrifuging after addition of four extraction buffers stepwisely
- ✓ Additionally required material is only cooled centrifuge( to10,000 x g)
- ✓ Process for all fractionation is completed in 3 hours
- ✓ Both Fractionated cell from mammalian tissue and frozen cell are available

### WSE-7421 EzSubcell Extract (2332337)

<b>Package</b>	①②③④ Extraction buffer 1 ~ 4 ⑤ Protease inhibitor ⑥ DNase I
<b>Volume</b>	For 50 samples
<b>Applicable Amount</b>	1 sample: ~ 2 × 10 <sup>7</sup> cell (φ 10cm Dish confluent) 50 ~ 100mg
<b>Storage</b>	① ~ ③ Cold storage, ④ Room temperature, ⑤ ⑥ -20 °C (Refrigerate on transportation is possible), 1 year

Expression of organelle marker protein

The result of western blotting of the nuclear & mitochondrial extracts from SW480 cells are shown. The data demonstrated that the organelle specific marker protein is detected in each fraction.

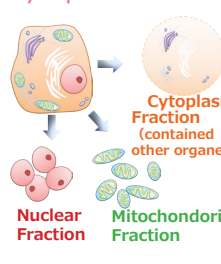


From animal cell

## Nucleus & Mitochondria Isolated Fraction kit

WSE-7422 EzSubcell Fraction

Reagent kit for fractionating nucleus/mitochondria/cytoplasm from animal cells



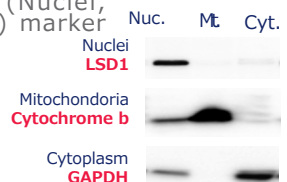
- ✓ Electrophoresis, Immunoprecipitation, ELISA,CHIP assay and enzymatic assay etc
- ✓ Simple preparation of organelle fractionation in high reproducibility and purity
- ✓ Additionally required material is only cooled centrifuge( to10,000 x g)
- ✓ Process for all fractionation is completed in 2 hours
- ✓ Detergent or non-detergent method is available

### WSE-7422 EzSubcell Fraction (2332338)

<b>Package</b>	① Fraction buffer 1 ② Fraction buffer 2 ③ RIPA Lysis buffer ④ Detergent mix ⑤ Protease inhibitor
<b>Volume</b>	For 50 samples
<b>Applicable Amount</b>	1 sample: ~ 2 × 10 <sup>7</sup> cell (φ 10cm Dish confluent)
<b>Storage</b>	Cold storage, ④⑤ -20 °C (Refrigerate on transportation is possible), 1 year

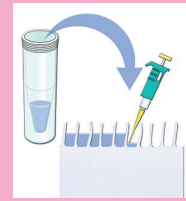
Expression of Organelle (Nuclei, Mitochondria, cytoplasm) marker protein

The data shows the result of each fraction that extracted from Hela cell, in western blotting method. Organelle specific marker proteins can be detected in each fraction.



# Sample Preparation

Sample preparation for electrophoresis,  
Fluorescence-labeling of protein,  
DNA Loading-dye



Sample Preparation

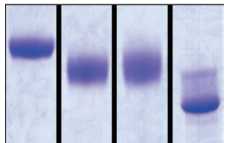
For SDS-PAGE

## Reagent kit for Sample Preparation

AE-1430 EzApply

Reagent kit for preparing protein / polypeptide samples for SDS-PAGE

EzApply  
50mMDTT 1%ME 50mMME No reducer



Example of sample prepared with EzApply and the others

- ✓ Reducing agent :DTT(Dithiothreitol)  
Reduction reaction more secure than 2-Me, Less likely to produce false bands, unscented
- ※ 2-Me : 2-Mercaptoethanol designed as poisonous and deleterious substance
- ✓ Easy preparation to mix with sample at a ratio of 1 to 1

Using with EzRunC+ is more effective.

AE-1430 EzApply (2332330)

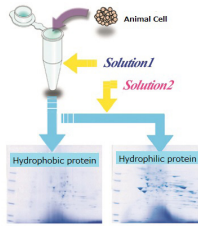
<b>Package</b>	① EzApply solution: 30mL x 1 bottle Tris-HCl Buffer, SDS, saccharose, BPB
<b>Volume</b>	For 5times (5mL per once)
<b>Applicable Amount</b>	1 preparation:5mL protein quantity about ~ 500mg (mixed with sample at a ratio of 1:1)
<b>Storage</b>	At -20°C for 6 months (before dissolved in DTT) or 1 week after dissolved with DTT (Refrigerate on transportaion is possible)

For 2D electrophoresis

## Reagent kit for Sample Preparation

AE-1435 EzApply2Dkit

Reagent kit for preparing 2D electrophoresis samples. For hydrophobic and hydrophilic protein extraction



- ✓ 2D electrophoresis sample buffer (From washing and extracting of sample to applying to gel)
- ✓ Extraction separated hydrophobic and hydrophilic sample is available
- ✓ Combination use with AE-1430EzApply (sample preparation kit for SDS-PAGE) makes it applicable to [SDS-PAGE as well as 2-D electrophoresis.

AE-1435 EzApply2Dkit (2332335)

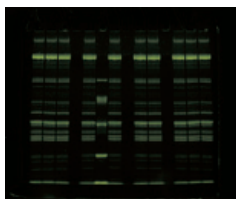
<b>Package</b>	① Wash Buffer: Tris, NaCl ② Solution1: Tris, Ampholine ③ Solution2: Urea, Thiourea, Surfactant, Ampholine ④⑤ For DTT Solution1, Solution2 : DTT ⑥⑦ Solution1-2、 2-2:Acrylamide, BPB ⑧ ⑨ Stratified solution for Solution1, Solution2 : Urea, Glycerin
<b>Volume</b>	Extracted from 100 mg of mammalian tissue 20 runs
<b>Storage</b>	Frozen at -20°C for 6 months (before dissolved with DTT) or 1 week after dissolved with DDT (Refrigerate on transportaion is possible)

For preparation of fluorescence labeling protein

## Reagent kit for Protein Fluorescence Labeling

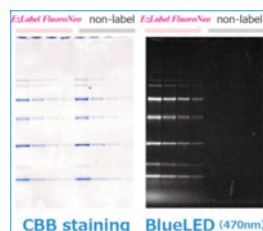
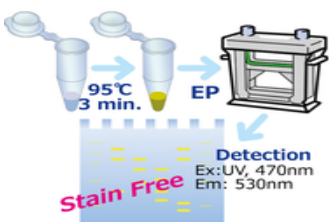
WSE-7010 EzLabelFluoroNeo

Reagent kit for preparing protein/polypeptide with fluorescent labeling for SDS-PAGE



Fluorescence detection (UV or Blue LED) after PAG electrophoresis of protein

- ✓ Without staining/destaining  
Immediate visualization protein bands after electrophoresis with UV or Blue LED right , Unnecessary for liquid waste disposal, Observable the gel with Blue LED without removing glass plate gel holder
- ✓ Detection with high sensitivity as silver staining(The excitation with Blue LED)
- ✓ Simple operation  
Just add labeling reagent to sample and heat
- ✓ Low running cost



Data on Page 7

WSE-7010 EzLabelFluoroNeo (2332333)

<b>Package</b>	① Sample niffer(includes SDS) ② Labeling reagent ③ Reducing agent (DTT) ④ MW marker ⑤ RIPA Lysis buffer
<b>Volume</b>	For 2,000 samples at the time of standard processing
<b>Applicable Amount</b>	Add 1 sample (20 μL) to fluorescence labeling reagent, MixBuffer 5 μL
<b>Storage</b>	for 1 year at -20°C (unopened)

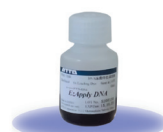
Loading buffer for DNA electrophoresis

## DNA Loading dye

WSE-7040 EzApply DNA

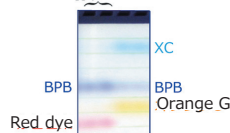
New

Loading dye (6x conc.) for DNA electrophoresis



EzApplyDNA

EzApplyDNA



1% Agarose gel electrophoresis

- ✓ High visibility of red and blue dyes
- ✓ Faster migration of red dye compared to Orange G
- ✓ Sharp DNA bands (compared to Sucrose and/or glycerol)
- ✓ Easy apply
- ✓ Sterilized

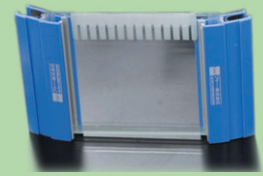
WSE-7040 EzApplyDNA (2332394)

<b>Major Components</b>	Buffer, Ficoll, Dye (BPB, Red)
<b>Volume</b>	10mL 6x conc. Loading dye
<b>Applicable Amount</b>	Mix EzApplyDNA to Sample in 5:1 ratio.
<b>Storage</b>	For 1 year at cold storage (unopened)

\* Please download (M)SDS of each reagent from Web site \*

# Electrophoresis

## Polyacrylamide gel electrophoresis(PAGE)



### 4x Gel buffer for hand casting gel Neutral pH gel casting buffer WSE-7310 EzGel Ace

New

Neutral gel casting buffer for fast running system of polyacrylamide gel electrophoresis with high resolution



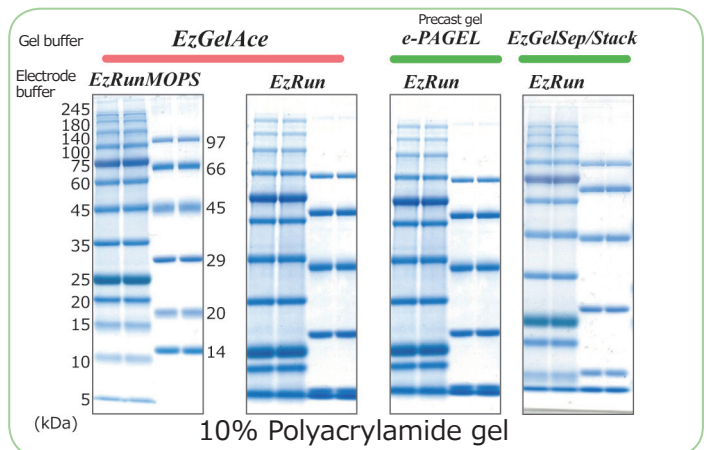
EzGel Ace

- ✓ Completion of electrophoresis within 30 min at 300V c.v.
- ✓ Suitable for separation & stacking gels
- ✓ High resolution of protein bands separation
- ✓ No smile effect
- ✓ Similar to the migration pattern of Laemmli gel
- ✓ Storable for a long term (1 month at 4°C) for casting gels
- ✓ Storable for 1 year at room temperature

WSE-7310 EzGel Ace (2332327)

<b>Components</b>	4x Gel casting buffer
<b>V o l u m e</b>	250mL for 1L of gel casting solution
<b>Applicable Amount</b>	5mL/Gel 2 sheets (100 sheets as ATTO Mini Slab gel)
<b>S t o r a g e</b>	For 1 year at room temperature (unopened)

### Comparative Data of Electrophoresis



Please refer to next page about EzRunMOPS, EzRun.

### 4x Gel buffer for hand casting gel Stacking gel casting buffer WSE-7155 EzGel Stack

New

Stacking gel casting buffer for gel polyacrylamide electrophoresis



EzGel Stack

- ✓ High quality, reproducibly and economical use
- ✓ For SDS-PAGE and native-PAGE
- ✓ Storable for 1 year at room temperature

WSE-7155 EzGel Stack (2332329)

<b>M a j o r Components</b>	0.5M Tris-Hydrochloric acid pH6.8 Final concentration (375mM Tris) x4 concentrated solution
<b>V o l u m e</b>	250mL for 1L of gel casting solution
<b>Applicable Amount</b>	1.5mL/Gel 2 sheets (330 sheets as ATTO Mini Slab Gel)
<b>S t o r a g e</b>	For 1 year at room temperature (unopened)

### 4x Gel buffer for hand casting gel Separation gel casting buffer WSE-7150 EzGel Sep

New

Separating gel casting buffer for polyacrylamide gel electrophoresis



EzGel Sep

- ✓ High quality, reproducibly and economical use
- ✓ For SDS-PAGE and native-PAGE
- ✓ Storable for 1 year at room temperature

WSE-7150 EzGel Sep (2332328)

<b>M a j o r Components</b>	1.5M Tris-Hydrochloric acid pH8.8 Final concentration (125mM Tris) x4 concentrated solution
<b>V o l u m e</b>	250mL for 1L of gel casting solution
<b>Applicable Amount</b>	4.5mL/Gel 2 sheets (110 sheets as ATTO Mini Slab Gel)
<b>S t o r a g e</b>	For 1 year at room temperature (unopened)

### Buffer for DNA electrophoresis WSE-7050 EzRun TAE (TAE buffer) WSE-7051 EzRun TBE (TBE buffer)

New

Refer to Page 5.

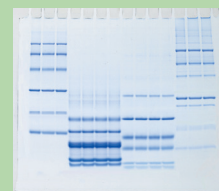
How to make a gel  
ATTO Web site  
The movie is on now!

Precast Gel  
On ATTO Web site



# Electrophoresis

Electrode buffer for polyacrylamide gel  
Electrode buffer for DNA gel



## Running Buffer for SDS-PAGE Tris-Glycine SDS Buffer for Electrophoresis AE-1410 EzRun

General Running Buffer for SDS-PAGE



EzRun

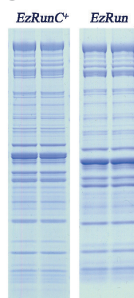
- ✓ Easily prepared by just dissolving with distilled water
- ✓ Powder easy to dissolve
- ✓ Powder form saves space and allows long storage
- ✓ Prepared to your desired volume and concentration
- ✓ Low running cost

### AE-1410 EzRun (2332310)

<b>Major Components</b>	Tris, Glycine, SDS Powder (Final concentration of 25mM Tris, 192mM glycine and 0.1%SDS)
<b>Volume</b>	Powder to final volume of 10L
<b>Applicable Amount</b>	500mL per 1 run (20 runs with ATTO Mini Slab chamber)
<b>Package</b>	At room temperature for 2 year (unopened) (Refrigerate on transportaion is possible)

## Running Buffer for SDS-PAGE with high-resolution performance Buffer with High-resolution Performance for Electrophoresis AE-1412 EzRun C+

Running Buffer with high-resolution performance for SDS-PAGE



- ✓ Prevent protein oxidation (recombination of -SH groups) during electrophoresis, providing more accurate results and sharper bands
- ✓ Easily prepared by dissolving with distilled water
- ✓ Powder easy to dissolve
- ✓ Powder form saves space and allows long period storage

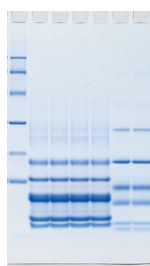
Using with EzApply is more effective.

### AE-1412 EzRunC+ (2332320)

<b>Major Components</b>	Tris, Glycine, SDS, SH protective agent Powder (Final concentrations of 25mM Tris, 192mM Glycine, 0.1%SDS, SH protective agent)
<b>Volume</b>	Powder for 5L (Powder for 500mL x 10 bags)
<b>Applicable Amount</b>	500mL per 1 run (10 runs with ATTO Mini Slab chamber)
<b>Storage</b>	At room temperature for 1 year (unopened)

## Running Buffer for Tris-Tricine PAGE Tris-Tricine SDS buffer for Electrophoresis AE-1415 EzRun T

Tris-Tricine Running buffer for separating of low molecules such as poly-peptides



MW  
26600  
17000  
14200  
6500  
3496  
1060Da

- ✓ Easily prepared by just dissolving with distilled water
- ✓ Powder easy to dissolve
- ✓ Powder form saves space and allows long storage
- ✓ Usage of precast gel for separating low molecules [C15S cPAGEL, E15S ePAGEL] are easy and speedy

### AE-1415 EzRunT (2332325)

<b>Major Components</b>	Tris, Tricine, SDS powder (Final concentration 100mM Tris, 50mM Tricine, 0.1%SDS)
<b>Volume</b>	Powder for 5L
<b>Applicable Amount</b>	500mL per 1 run (10 runs with ATTO Mini Slab chamber)
<b>Storage</b>	At room temperature for 1 year (unopened) (Refrigerate on transportaion is possible)

## Running buffer for Native PAGE, and Blotting buffer for wet-transfer system Tris-Glycine Buffer WSE-7055 EzRun TG

New

Running buffer for Native PAGE, and Blotting buffer for wet-transfer system



EzRun TG

- ✓ Available for electrode buffer of Native PAGE, electrode buffer for DNA electrophoresis with precast gel (PAGEL) and Transfer buffer with wet-transfer system
- ✓ 10x concentrated reagent -Dilute with distilled water before use
- ✓ Sterilized
- ✓ Storable for 1 year at room temperature

### WSE-7055 EzRun TG (2332323)

<b>Major Components</b>	Tris, Glycine x10 concentrated solution (Final concentration 25mM Tris, 192mM Glycine) Sterilized (Free of DNase)
<b>Volume</b>	500mL
<b>Applicable Amount</b>	For 5L
<b>Storage</b>	500mL per 1 run (10 runs with ATTO Mini Slab chamber) For 1 year at room temperature (unopened)

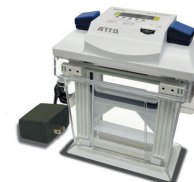
Precast gel for separating low molecular proteins  
[C15S c-PAGEL]  
[E-T/R15S e-PAGEL]



PAG Electrophoresis Apparatus

On ATTO Web site

Various electrophoresis apparatus is available



Mini Slab Electrophoresis system  
[WSE-1150 PageRun-Ace]

Buffer for fast electrophoresis system  
**MOPS electrode buffer**  
 WSE-7065 EzRun MOPS New

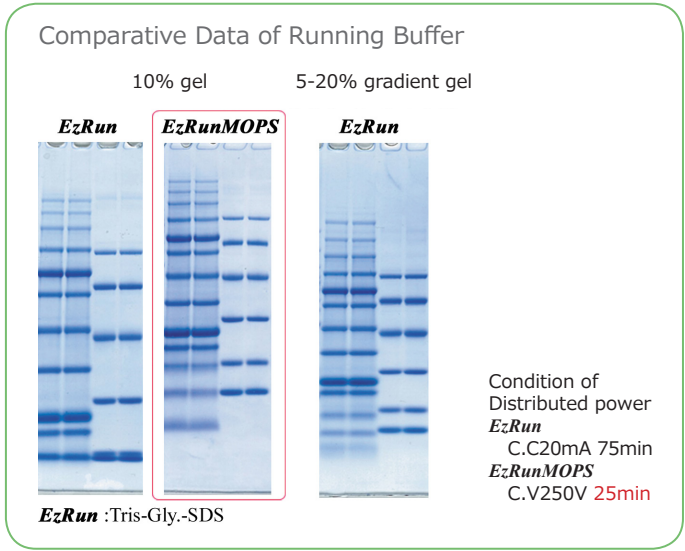
High resolution of separation like a gradient gel with high-speed gel electrophoresis



- ✓ @ 300V c.v.  
Compact gel; within 10 min  
Mini gel; within 30 min
- ✓ High resolution of separation for low MW protein bands
- ✓ Similar to electrophoretic pattern of gradient gel
- ✓ Suitable for precast gel & hand cast gel

WSE-7065 EzRun MOPS (2332326)	
<b>Major Components</b>	Tris, MOPS, SDS x20 concentrated solution
<b>Volume</b>	250mL
<b>Applicable</b>	For 5L
<b>Amount</b>	500mL per 1 run (10 runs with ATTO Mini Slab chamber)
<b>Storage</b>	For 1 year at room temperature (unopened)

~High resolution separation of electrophoresis ! ~



Buffer for electrophoresis of DNA  
**TAE Buffer for Electrophoresis**  
 WSE-7050 EzRun TAE New

General buffer for electrophoresis of DNA



- ✓ Available for electrophoresis of DNA
- ✓ 50x concentrated reagent -Dilute with distilled water before use
- ✓ Sterilized
- ✓ Storable for 1 year at room temperature

WSE-7050 EzRun TAE (2332391)	
<b>Major Components</b>	Tris, Acetic acid, EDTA x50 concentrated solution (Final concentration 49mM Tris, 49mM Acetic acid, 1mM EDTA) Sterilized (Free of DNase)
<b>Volume</b>	500mL
<b>Applicable</b>	For 25L
<b>Amount</b>	220mL per 1 run (About 110 runs with ATTO Submerge Mini chamber)
<b>Storage</b>	For 1 year at room temperature (unopened)

Buffer for electrophoresis of DNA  
**TBE Buffer for Electrophoresis**  
 WSE-7051 EzRun TBE New

General buffer for electrophoresis of DNA



- ✓ Available for electrophoresis of DNA
- ✓ Suitable for analysing low molecular weight DNA fragments
- ✓ 10x concentrated reagent -Dilute with distilled water before use
- ✓ Sterilized
- ✓ Storable for 1 year at room temperature

WSE-7051 EzRun TBE (2332392)	
<b>Major Components</b>	Tris, Boric acid, EDTA x10 concentrated solution (Final concentration 89mM Tris, 89mM Boric acid, 1mM EDTA) Sterilized (Free of DNase)
<b>Volume</b>	500mL
<b>Applicable</b>	For 5L
<b>Amount</b>	220mL per 1 run (About 22 runs with ATTO Submerge Mini chamber)
<b>Storage</b>	For 1 year at room temperature (unopened)

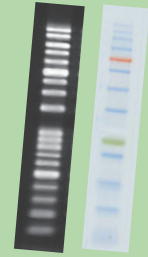


DNA Electrophoresis Apparatus  
 On ATTO Web site  
 Various electrophoresis apparatus is available

Agarose Gel Electrophoresis small type  
 「WSE-1710 Submerge Mini」

# Electrophoresis

## Molecular weight marker

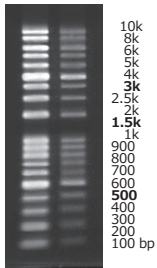


For DNA electrophoresis

### DNA molecular weight marker

*WSE-7030 EzDNA Ladder*

DNA molecular weight marker for electrophoresis



- ✓ DNA ladder marker covering broad range in size from 100bp to 10kbp
- ✓ 19 clear individual bands
- ✓ 3K, 1.5K, 500bp are enhanced bands
- ✓ Ready-to-use
- ✓ Three tracking dyes (XC, BPB, OrangeG)

*WSE-7030 EzDNA Ladder* (2332342)

**Major Components** DNA Fragments, buffer, dye (XC, BPB, OrangeG)  
M.W. : 10k, 8k, 6k, 5k, 4k, 3k, 2.5k, 2k, 1.5k, 1k, 900, 800, 700, 600, 500, 400, 300, 200, 100 bp

**Package** 500 µL / tube

**Applicable Amount** 1.5~5 µL/lane

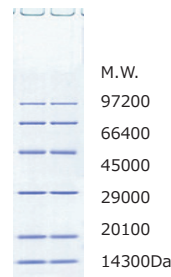
**Storage** At -20°C for 1 year (unopened)

For SDS-PAGE

### Protein Molecular weight Marker

*AE-1440 EzStandard*

Protein molecular weight marker for SDS-PAGE



- ✓ Low running cost
- ✓ Ready-to-use, No need for preparation
- ✓ Produce sharp bands
- ✓ Stable after repeated freeze-thaw cycles

*AE-1440(-2) EzStandard* (2332340/5)

**Major Components** Marker protein, Buffer, BPB  
M.W. : 97.2, 66.4, 45, 29, 20.1, 14.3kDa

**Package** 500 µL / tube

**Applicable Amount** 3~5 µL/lane

(100~160 runs with ATTO Mini Slab Chamber)

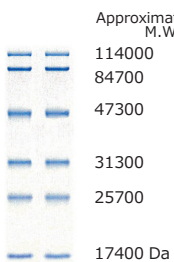
**Storage** At -20°C for 1 year (unopened)

For SDS-PAGE

### Prestained Protein Marker

*AE-1450 EzStandardPrestainBlue*

Molecular weight marker prestained in blue for SDS-PAGE



- ✓ Bands visualized in blue color During electrophoresis and blotting
- ✓ Ready-to-use, No need for preparation
- ✓ Provide sharper bands
- ✓ Low running cost
- ✓ Stable after repeated freeze-thaw cycles

*AE-1450 EzStandardPrestainBlue* (2332347)

**Major Components** Marker protein marker, Buffer, BPB  
Approximate M.W. : 114, 84.7, 47.3, 31.3, 25.7, 17.4 kDa

**Package** 300 µL / tube

**Applicable Amount** 3~5 µL/lane  
(60~100 runs with ATTO Mini Slab Chamber)

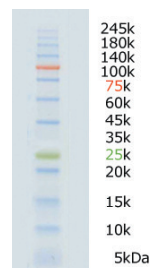
**Storage** At -20°C for 1 year (unopened)

For SDS-PAGE

### Prestained Protein Ladder Marker

*WSE-7020 EzProteinLadder*

Three color Prestained Protein Ladder Marker



- ✓ Three color prestained marker is suitable for electrophoresis and blotting  
75 kDa; RED, 25 kDa; GREEN, Others; BLUE
- ✓ 12 (13) sharp bands covering broad range in size from (~5) 10 kDa to 245kDa
- ✓ Ready-to-use

*WSE-7020 EzProteinLadder* (2332346)

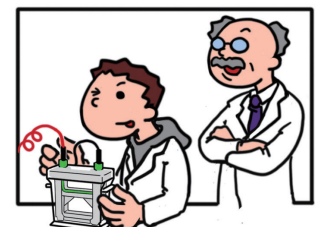
**Major Components** Marker protein, buffer  
Approximate M.W. : 245k, 180k, 140k, 100k, 75k, 60k, 45k, 35k, 25k, 20k, 15k, 10kDa (5kDa)

**Package** 250 µL × 2 tubes

**Applicable Amount** 1.5~5 µL/lane (Electrophoresis; 3 ~ 5 µL, Blotting; 1.5 ~ 3 µL)

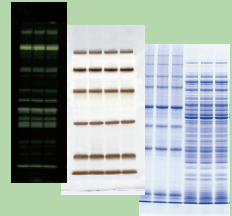
**Storage** At -20°C for 1 year (unopened)

\* Please download (M)SDS of each reagent from Web site \*



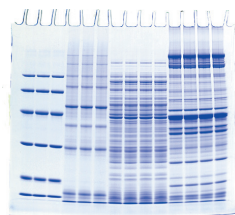
# Electrophoresis

CBB stain, Silver stain, native stain  
DNA fluorescence stain



## For detecting protein CBB(Coomassie Brilliant Blue)Stain Reagent AE-1340 EzStain Aqua

CBB stain reagent for detecting protein after PAGE



Protein detection after PAGE

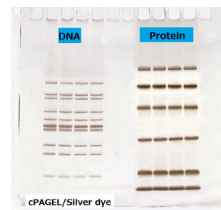
- ✓ Absence of organic solvents like methanol
- ✓ Absence of acetic acid reduces concern about bad smell
- ✓ Ready to use. Easily prepared only by pouring to the tray
- ✓ Sensitivity is up to several ng of protein per band, Brilliant blue band and nearly transparent background
- ✓ Available for short time(60min~) detection(with microwave oven) and overnight dyeing

### AE-1340 EzStain Aqua (2332370)

<b>Major Components</b>	CBB(Coomassie Brilliant Blue) solution
<b>Volume</b>	1L
<b>Applicable Amount</b>	About 50mL per once (20runs with ATTO Mini Slab Chamber)
<b>Storage</b>	At room temperature for 1 year(unopened)

## For detecting protein and DNA Silver Stain Reagent AE-1360 EzStain Silver

Silver stain reagent kit for detecting protein/DNA after PAGE



DNA and protein detection after PAGE

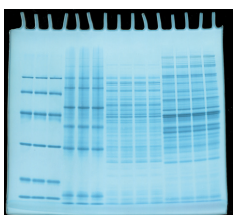
- ✓ Easily prepared by sampling 1 mL of each reagent and diluting
- ✓ Sensitivity is up to approximately 1 ng of protein, The number of nucleic + pg/ band
- ✓ Absence of glutaraldehyde allows application to MS\*. (\*MS-Mass Spectrometry)
- ✓ Staining takes approximately 55 minutes
- ✓ Low running cost
- ✓ Small containers save space for storage

### AE-1360 EzStain Silver (2332360)

<b>Major Components</b>	S-1:sodium thiosulfate S-2:silver nitrate S-3:sodium hydrate S-4:sodium thiosulfate and formaldehyde
<b>Package</b>	Each solution: 50 mL/bottle
<b>Applicable Amount</b>	About 1mL per once (50 sheets as ATTO Mini Slab Gel size)
<b>Storage</b>	At 4° C away from light for 2 years (unopened)

## For detecting protein Reverse(negative) Stain AE-1310 EzStain Reverse

Reverse stain for detecting protein after PAGE



Protein detection after PAGE (Gel is posed on black board and photographed)

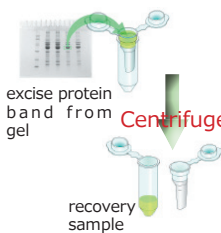
- ✓ Whiten the background while keeping the protein band transparent
- ✓ Sensitivity is up to several ng of protein per band (several to 10 times sensitive than Coomassie)
- ✓ Staining time of only 20 to 25 minutes for detection
- ✓ Ease of stain removal facilitates the trimming and recovering of protein bands and photographed)

### AE-1310 EzStain Reverse (2332350)

<b>Major Component</b>	R-1: Boric acid, SDS R-2: Zinc sulfate
<b>Package</b>	500mL/Each bottle
<b>Applicable Amount</b>	About 50 sheets as ATTO Mini Slab Gel size
<b>Storage</b>	At room temperature away from light for 2 years(unopened)

## Recovery proteins from electrophoresed gels Spin column AB-1171 ATTOPREP MF

Spin column for extraction and recovery of proteins and nucleic acids from electrophoresed gel

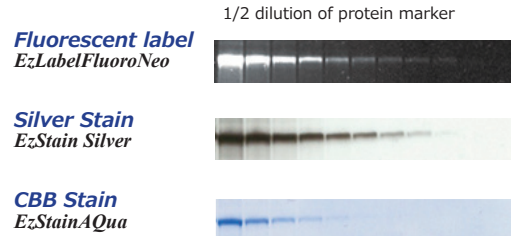
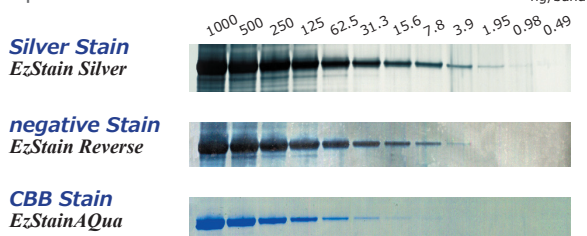


- ✓ Recover samples efficiently from small amount of gels
- ✓ Easy and speedy, centrifuge samples with 5000 ~ 15000xg for 5-30 min
- ✓ PES filter membrane is available for broad pH range, and suppressing unspecific absorption and clogging

### AB-1171 Attoprep MF (3521370)

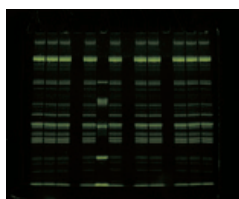
<b>Sample volume</b>	100 ~ 500 μL
<b>Maximum centrifugal speed</b>	15,000 g
<b>Membrane available</b>	pore size : 0.2 μm PES
<b>pH</b>	pH1 ~ 9
<b>Volume</b>	50 columns

### Comparison of detection methods



**For preparation of fluorescence labeling protein**  
**Reagent kit for Protein Fluorescence Labeling**  
*WSE-7010 EzLabelFluoroNeo*

Reagent kit for preparing protein / polypeptide with fluorescent labeling for SDS-PAGE



Fluorescence detection (UV or Blue LED) after PAG electrophoresis of protein

- ✓ Without staining/destaining  
Immediate visualization protein bands after electrophoresis with UV or Blue LED right, Unnecessary for liquid waste disposal, Observable the gel with Blue LED without removing glass plate gel holder
- ✓ Detection with high sensitivity as silver staining(The excitation with Blue LED)
- ✓ Simple operation  
Just add labeling reagent to sample and heat
- ✓ Low running cost

*WSE-7010 EzLabelFluoroNeo (2332333)*

**Package** ① Sample niffer(includes SDS) ② Labeling reagent ③ Reducing agent (DTT) ④ MW marker ⑤ RIPA Lysis buffer

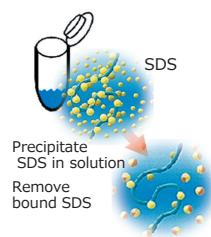
**Volume** For 2,000 samples at the time of standard processing

**Applicable Amount** Add 1 sample (20 μL) to fluorescence labeling reagent, MixBuffer 5 μL

**Storage** For 1 year at -20°C (unopened)

**For removing SDS from samples**  
**SDS Removal kit**  
*AE-1390 SDS-eliminant*

Reagent for removing SDS(Sodium Dodecyl Sulfate) from samples with simple operation です。



- ✓ Over 95% of the ionized SDS is removed briefly
- ✓ The recovery success rate of proteins is high
- ✓ Available for small amount samples (less than 1mL)
- ✓ Ready to Use

SDS bound to protein directly cannot be removed completely.

*AE-1390 SDS-eliminant (2332390)*

**Major Components** ① SolutionA : KCl, Tris ② SolutionB :non-ionic surfactant, Tris

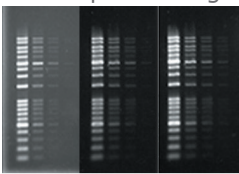
**Volume** ①② Each 2 mL

**Applicable Amount** ① For about 40mL ② For about 10mL

**Storage** For 1 year at cold storage in light-blocking bag (unopened)

**High sensitive detection and safety**  
**DNA fluorescent staining dye**  
*WSE-7130 EzFluoroStain DNA*

Fluorescent dye for detection of DNA in post-electrophoresed gel



EtBr UV, EzFluoroStainDNA UV, BlueLED

- ✓ Higher sensitive detection of DNA with lower background as compared with EtBr
- ✓ More safety compared to EtBr  
Lowest value by Ames test, not containing carcinogenic substance of IARC
- ✓ Detection with UV or BlueLED
- ✓ BlueLED enables to detect DNA bands with higher sensitivity and safety
- ✓ Unnecessary for destaining step, speedy, small amount of waste fluid

EtBr:Ethidium Bromide

*WSE-7130 EzFluoroStainDNA (2332395)*

**Major Components** Fluorescent staining dye

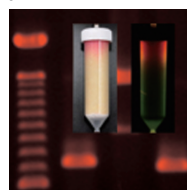
**Volume** 500 μL solution

**Applicable Amount** 5~10 μL/50~100mL buffer For 50-100gels

**Storage** For 1 year at -20°C in dark (unopened)

**Removal of ethidium bromide from aqueous solutions**  
**EtBr removal column**  
*WSE-7410 Ocolmun*

Easy and Safety column for remove EtBr from aqueous solution



absorbed EtBr can be detectable(red) UV(312nm) excitation image fluorescent derived from EtBr can be visualized

- ✓ Remove more than 99 % of EtBr from solution
- ✓ Absorption efficiency of EtBr can be confirmed with visualization (red stain)
- ✓ One column is available for 3L of EtBr solution
- ✓ Absorbent (Tofu) is natural materials

*WSE-7410 Ocolmun (2007410)*

**Major Components** Tofu refuse (tofu refuse: 75%, cellulose: 25%) column

**Volume** 12 columns

**Applicable Amount** 3L of EtBr solution (EtBr<1ug/mL) / column

**Storage** For 2 year at cold storage with light-blocking (unopened)



Florescent Imaging Apparatus  
 On ATTO Web site  
 Various imaging system is available

Gel Imaging system [WSE-5200 PrintGraph 2M]



# Blotting

Blotting reagent  
for Western-Blot

# Blocking & Washing

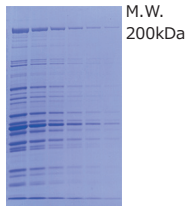
Blocking agent,  
Washing membrane

For Western semi drive blotting

## Blotting Reagent

*AE-1460 EzBlot*

Transfer buffer comprised of 3 reagent for semi-dry blotting of protein sample.



Blotted membrane  
Protein detection with CBB stain

- ✓ High efficient to blot with low and high molecular
- ✓ Simple preparation to add A/B/C bottle to methanol
- ✓ Disposable trays are included
- ✓ Trusted experience based on general principal of semi-dry blotting

### *AE-1460 EzBlot* (2332600)

<b>Major Components</b>	A·B : Tris Disposable tray	C : Tris, amonocaporic acid
<b>Volume</b>	Each solution 475mL / Bottle 1xBottle A, 2xBottle B, 1xBottle C 40 disposable trays	
<b>Applicable Amount</b>	A·C about 25mL per once (About 20 runs of Minigel blotting)	
<b>Storage</b>	1 year at room temperature in dark (unopened)	

Methanol-free, Blotting in short time

## Blotting Reagent with Fast

*AE-1465 EzFastBlot*

Blotting reagent with fast for semi-dry blotting of protein



*EzFastBlot*

- ✓ Transfer time is 30~60min, The time to complete blotting is 10~15 min with Mini gel
- ✓ Methanol-free, Unnecessary for liquid waste disposal
- ✓ 10x concentrated reagent -Dilute with distilled water before use

### *AE-1465 EzFastBlot* (2332590)

<b>Major Components</b>	Tris, Amino acids	10x concentrated solution
<b>Volume</b>	500mL / Bottle	
<b>Applicable Amount</b>	For 5L About 100mL per once (About 50 runs of Minigel)	
<b>Storage</b>	1 year at room temperature in dark (unopened)	

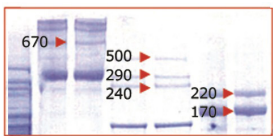
MeOH free and speedy transfer system

## Semi-dry Transfer buffer of HMW protein

*WSE-7210 EzFastBlot HMW*



Semi-dry Fast Transfer buffer for High molecular weight proteins (200kDa < )



(kDa) 25V 30min

- ✓ Efficient transfer of high molecules (MW200kDa<) within 30 min
- ✓ MeOH · Acid · Detergent free
- ✓ 5x concentrated reagent -Dilute with distilled water before use

### *WSE-7210 EzFastBlot HMW* (2332595)

<b>Major Components</b>	Tris	x5 concentrated solution
<b>Volume</b>	500mL / Bottle	
<b>Applicable Amount</b>	For 2.5L About 100mL/1 sheet for about 25 sheets as Mini gel	
<b>Storage</b>	For 1 year at room temperature in dark (unopened)	

For Native-PAGE and Wet-transfer system

## Tris-Glycine Buffer

*WSE-7055 EzRun TG*



Electrode buffer of Native PAGE and Wet transfer buffer



*EzRun TG*

- ✓ Electrode buffer of native PAGE, DNA electrophoresis with precast gel (e-PAGEL), and Transfer buffer for wet-transfer system
- ✓ 10x concentrated reagent -Dilute with distilled water before use
- ✓ Sterilized
- ✓ Storable for 1 year at room temperature

### *WSE-7055 EzRun TG* (2332323)

<b>Major Components</b>	Tris, Glycine	(Final concentration 25mM Tris, 192mM Glycine)
<b>Volume</b>	500mL	
<b>Applicable Amount</b>	For 5L of working solution	
<b>Storage</b>	For 1 year at room temperature (unopened)	

Choice of Western blotting (protein blotting) reagent

### *AE-1465 EzFastBlot*

⇒ Semi-dry transfer system  
Blotting with **easy and fast**

### *WSE-7210 EzFastBlot HMW*

⇒ Semi-dry transfer system  
Blotting with **high molecular**

### *AE-1460 EzBlot*

⇒ Semi-dry transfer system  
Higher efficient transfer buffer

### *WSE-7055 EzRun TG*

⇒ Wet (Tank) Transfer buffer



Blotter for semi-dry transfer Power supply system  
HorizeBLOT 2M-RJ WSE-4020 PowerStation HCJ  
WSE-3500

For Western blotting  
**Non-Protein Blocking Reagent**

*AE-1475 EzBlock Chemi*

Non-protein blocking reagent for Western blotting



*EzBlock Chemi*

- ✓ Protein- free blocking reagent
- ✓ Available for antiphorylation antibody
- ✓ Stable with non-protein component
- ✓ Dilute it 5 times with distilled water before use
- ✓ High cost performance
- ✓ For Western blotting, ELISA, immunostaining

*AE-1475 EzBlock Chemi (2332615)*

<b>Major Components</b>	Tris buffer, Blocking agent x5 concentrated solution
<b>Volume</b>	500mL / Bottle
<b>Applicable Amount</b>	For 2.5L About 50 sheets as membrane of Minigel size
<b>Storage</b>	For 1 year at cold storage (unopened)

For Western blotting  
**BSA Blocking Reagent**

*AE-1476 EzBlock BSA*

BSA blocking reagent for Western blotting



*EzBlock BSA*

- ✓ General blocking reagent including BSA
- ✓ Dilute it 5 times with distilled water before use
- ✓ For blotting like Western blot etc
- ✓ Addition of supplied Tween-20 depend on the experimental purpose

*AE-1476 EzBlock BSA (2332616)*

<b>Major Components</b>	Tris buffer, BSA x5 concentrated solution Tween20
<b>Volume</b>	200mL / Bottle
<b>Applicable Amount</b>	For 1L About 20 sheets as membrane of Minigel size
<b>Storage</b>	For 1 year at cold storage (unopened)

For Western blotting  
**Casein Blocking Reagent**

*AE-1477 EzBlock CAS*

Casein blocking reagent for Western blotting



*EzBlock CAS*

- ✓ Casein which has high blocking efficiency
- ✓ Dilute it 5 times with distilled water before use
- ✓ Available for various type of blocking for example, Western blotting. It is effective to *EzReprobe* in particular
- ✓ Addition of supplied Tween-20 depend on the experimental purpose

*AE-1476 EzBlock BSA (2332617)*

<b>Major Components</b>	Tris buffer, Casein x5 concentrated solution Tween20
<b>Volume</b>	200mL / Bottle
<b>Applicable Amount</b>	For 1L About 20 sheets as membrane of Minigel size
<b>Storage</b>	for 1 year at cold storage (unopened)

Choice of Blocking reagent

*AE-1475 EzBlockChemi*

- ⇒ Almighty reduce cost, No cross reaction
- Blocking agent : non protein polymer

*AE-1476 EzBlockBSA*

- ⇒ Orthodox
- Blocking agent : BSA (Bovine Serum Albumin)

*AE-1477 EzBlockCAS*

- ⇒ Very effective to blot, Recommend for Reprobe
- Blocking agent : CAS (Casein)



For Western blotting  
**Wash Buffer TBE Buffer**

*WSE-7230 EzTBS*

TBE buffer for washing membrane of Western blotting



*EzTBS*

- ✓ General TBS buffer (Tris buffer, NaCl)
- ✓ Dilute it 10 times with distilled water
- ✓ For washing buffer for western blotting
- ✓ Sterilized, DNase free
- ✓ Enable to prepare concentration of surfactant depending on experiment

Please use it with *EzTween*.

*WSE-7230 EzTBS (2332625)*

<b>Major Components</b>	Tris buffer (pH7.5), NaCl x10 concentrated reagent (Final concentration 25mM Tris, 150mM NaCl)
<b>Volume</b>	1L / Bottle
<b>Applicable Amount</b>	For 10L About 30 sheets as membrane of Minigel size
<b>Storage</b>	For 1 year at room temperature (unopened)

Surfactant for addition to PBS,TBS  
**Tween Reagent**

*WSE-7235 EzTween*

Tween reagent for adding to membrane washing buffer of Western blotting



*EzTween*

- ✓ 10% Tween
- ✓ Pipetting easy by a low viscosity of the solution
- More precisely and effective to operate blotting and general Tween reagent
- ✓ For using as a wash buffer of western blotting and general Tween reagent
- ✓ Enable to prepare final concentration depending on experiment
- ✓ Economical

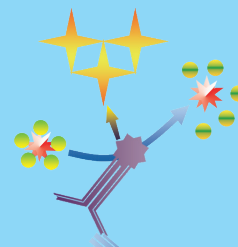
*WSE-7235 EzTween (2332626)*

<b>Major Components</b>	10% Tween-20 reagent
<b>Volume</b>	100mL / Bottle
<b>Applicable Amount</b>	For 100L (With using final concentration as 0.1%)
<b>Storage</b>	For 1 year at room temperature (unopened)

**PBS buffer** *WSE-7230 EzPBS* : refer to Page 1

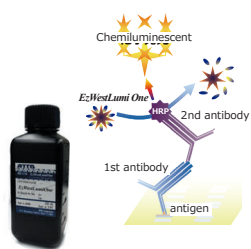
# Chemiluminescence Substrate & Stripping

## Chemiluminescence reagent Strip antibody and Reprobe



### chemiluminescent detection of HRP **Ready-to-use Luminol substrate** *WSE-7110 EzWestLumiOne*

Luminol substrate for chemiluminescent detection of HRP



- ✓ HRP (Horse Radish Peroxydase) luminol substrate
- ✓ Ready to Use (Pre-mixed)
- ✓ High signal intensity and sensitivity (pg<)
- ✓ Duration of stable signal for more than 1 hour
- ✓ Economical use
- ✓ Low background and high S/N
- ✓ Broad linear dynamic range

#### *WSE-7110 EzWestLumiOne* (2332632)

**Major Components** Luminol, Enhancer solution, Hydrogen peroxide

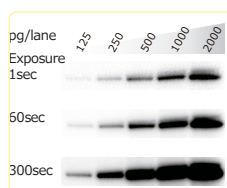
**Volume** 250mL / Bottle

**Applicable Amount** For 5,000cm<sup>2</sup> (About 60 sheets as membrane of Mini Gel size)

**Storage** For 1 year at cold storage (unopened)

### High sensitive for chemiluminescent detection of HRP **High Sensitive Luminol Substrate Reagent** *WSE-7120S/L EzWestLumi plus*

High sensitive luminol substrate for chemiluminescent detection of HRP for Western blotting



- ✓ HRP (Horse Radish Peroxydase) luminol substrate
- ✓ High signal intensity and sensitivity (500fg<)
- ✓ Stable signal duration (3h)
- ✓ Broad linear dynamic range
- ✓ Suitable for quantitative analysis
- ✓ Low background and high S/N
- ✓ Good cost performance
- ✓ Choose S or L size

#### *WSE-7120S/L EzWestLumi plus* (2332637/8)

**Major Components** Reagent A : Luminol/Enhancer solution  
Reagent B : Hydrogen peroxide solution

**Volume** S : Reagent A, B Each 50mL / Bottle  
L : Reagent A, B Each 250mL / Bottle

**Applicable Amount** S: For 2,000cm<sup>2</sup> L: For 1m<sup>2</sup> (About 20, 100 sheets as membrane of Minigel size)

**Storage** At 4° C for 1 years (unopened)

### For Western blotting **Antibody Stripping Reagent** *WSE-7240 EzReprobe*

Stripping reagent for removing primary/second antibody on Western blotting



- ✓ Soak the used blot in EzReprobe and incubate for 10 min at room temperature
- ✓ Less damage to the antigen on the blot
- ✓ Repeatable stripping and reprobing reaction
- ✓ Rabbit monoclonal antibody which is generally shown high titer can be removed
- ✓ Good cost performance

EzBlockCAS is prefer as blocking agent.

#### *WSE-7240 EzReprobe* (2332530)

**Major Components** Buffer, Surfactant

**Volume** EzReprobe 500mL, Enhancer (Powder) 3g

**Applicable Amount** About 50mL per once (20 runs with ATTO Mini Slab gel size)

**Storage** At room temperature for 1 year (unopened)

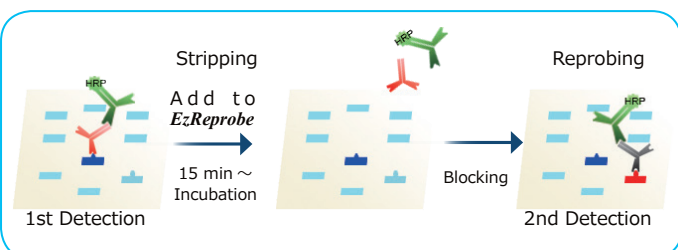


Chemiluminescent Imaging system

On ATTO Web site

Various Imaging system available

Chemiluminescent Imaging System  
[WSE-6100 LuminoGraph]



\* Please download (M)SDS of each reagent from Web site \*

# Colorimetric Substrate & Membrane, Filter

Colorimetric reagent  
Membrane & filter for blotting

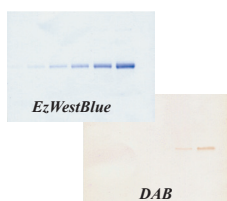


For colorimetric reagent of HRP

## Colorimetric Substrate Reagent

*AE-1490 EzWestBlue*

Colorimetric substrate for Western blotting and HRP



- ✓ Colorimetric TMB substrate for HRP (Horse Radish Peroxydase)
- ✓ Safer and more sensitive than DAB (Diaminobenzidine)
- ✓ Visualized in bright and clear blue
- ✓ Ready to Use
- ✓ Absence of enzyme inhibition due to the absence of organic solvent

*AE-1490 EzWestBlue* (2332630)

**Major** TMB solution (Not containing organic solvents)

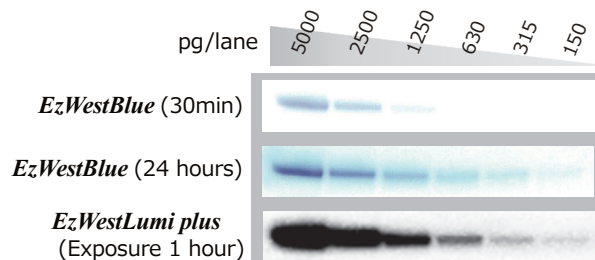
**Components** (TMB : 3,3',5,5'-tetramethylbenzidine)

**Volume** 200mL / Bottle

**Volume** For 2000cm<sup>2</sup> (About 25 sheets as membrane of Mini gel size)

**Storage** At 4°C for 6 months (unopened)

Sensitivity Comparison of Substrate  
(Chemiluminescence and coloring)



For Western blotting High S/N

## Blotting Membrane (PVDF Membrane)

*WSE-4050 ~ 3*

PVDF membrane having strong absorption power and low background for Western blotting



ClearBLOT · P+ membrane

- ✓ Strong absorption power, low background and high S/N
- ✓ Mechanical strength and chemical resistance of PVDF membrane
- ✓ Pore size is 0.2 μm which is available for low molecular
- ✓ Various kinds of membrane to suit gel sizes are available
- ✓ Available for thermal blotting of lipids

**ClearBLOT · P+ membrane**

	<i>WSE-4050</i> (2322450)	<i>WSE-4051</i> (2322451)	<i>WSE-4052</i> (2322452)	<i>WSE-4053</i> (2322453)
<b>Materials/ Pore size</b>	PVDF (polyvinylidene difluoride)		0.2 μm	
<b>Size</b>	65x65mm	85x90mm	130x140mm	260mmx3m
<b>Package</b>	20sheets/box	20sheets/box	10sheets/box	1 role

For blotting Dense, Clean, Thick

## Absorbent Paper (Filter)

*CB-06A/09A/13A/20A*

Filter having density and thickness for blotting



Absorbent Paper

- ✓ hold solution with high density
- ✓ Thickness: 0.9mm
- ✓ Clean and fine quality No more contamination
- ✓ The filter papers pre-cut to suit the membrane size

**Abosorbent Paper**

	<i>CB-06A</i> (2322437)	<i>CB-09A</i> (2392393)	<i>CB-13A</i> (2322436)	<i>CB-20A</i> (2392493)
<b>Thickness</b>	0.9mm			
<b>Size</b>	65x65mm	85x90mm	130x140mm	200x200mm
<b>Package</b>	400sheets/ Box	400sheets/ Box	100sheets/ Box x2	100sheets/ Box

Tips of Western blotting (Protein blotting)

### Secret for succeeding in Semi dry type Blotting

① Adhere gel and blotting membrane, ② Blotting reagent, ③ Condition of distributed power

- Adhere gel and membrane firmly
  - Use proper blotting solution for apparatus
  - **Filter** is important material for holding blotting solution  
Choose clean, dense and thick filter.  
Thickness of filter x the number of sheets is amount of blotting solution.  
Also, it is important that electrodes of blotting apparatus is set between proper distances.
  - Choose condition of distributed power depending on kind of blotting solution, distributing distance and area (area of gel, membrane and thickness of filter)
- Read instruction manual of reagent and apparatus.

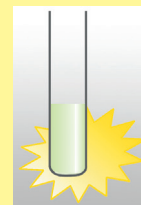


Blotting roller



# Luminometer

Antioxidant measurement,  $O_2^-$  measurement,  
Live bacteria measurement



## Super oxide ( $O_2^-$ ) activity Chemiluminescence Reagent kit for Antioxidant Measurement AB-2970 CLETA-S

Chemiluminescence reagent kit for measuring super oxidant ( $O_2^-$ ) and antioxidant activity



CLETA-S

- ✓ Valid reagent kit for antioxidant measurement
- ✓ High S/N in neutral solution
- ✓ Low reactivity with dissolved  $O_2$
- ✓ Available for detection of low concentrated super oxide ( $O_2^-$ )

### AB-2970 CLETA-S (3512011)

**Components** ① Chemiluminescence reagent MPEC ② Substrate solution  
③ Enzyme solution ④ Dilution buffer

**Package** For 100 assays

**Storage** ① -20°C ②~④ at 4°C 6 months

## Super oxide ( $O_2^-$ ) activity Chemiluminescence Reagent AB-2950 MPEC

Chemiluminescence reagent reacting specifically with super oxide ( $O_2^-$ )



MPEC

- ✓ High S/N in neutral solution
- ✓ Low reactivity with dissolved  $O_2$
- ✓ Available for detection of low concentrated super oxide ( $O_2^-$ )

### AB-2950 MPEC (3512010)

**Chemical** 2-methyl-6-p-methoxyphenylethynyl-imidazopyrazinone  
**Family** Molecular weight 270.1008Da

**Volume** 5mg powder

**Storage** -20°C

## Menadione oxidation-reduction activity Chemiluminescence Reagent kit for Viable bacteria Measurement AB-2960 BactoLumix

Chemiluminescence reagent kit for measuring active oxygen made from reaction of bacterial enzyme and menadione



BactoLumix

- ✓ Measurement takes 10 seconds per sample
- ✓ Measurement without bacteriolysis is possible
- ✓ Can be detected up to  $3 \times 10^4$  to  $10^8$  /mL of microbes
- ✓ Measure active oxygen which is composed from reaction with quinone oxidoreductase (NAD(P)H) and menadione
- ✓ For quality control

### AB-2960 BactoLumix (3512020)

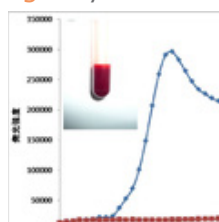
**Major Components** ① CL reagent (powder)  
② Buffer for dissolution of CL reagent  
③ Catalyst (Menadione) ④ Buffer for Dilution of catalyst  
⑤ Powder medium for microbial culture

**Applicable Amount** For 1000 samples

**Storage** at 4°C for 1 year (Frozen prohibition)

## Super oxide ( $O_2^-$ ) activity Near-Infrared Light Chemiluminescence Reagent AB-2980 NIR-CLA

Chemiluminescence reagent emitting near-infrared light by reaction with super oxide ( $O_2^-$ )



- ✓ Emit near-infrared light of 800nm
- ✓ Detect super oxide in blood efficiently (Since hemoglobin absorbs the light below 650nm, other probes such as MCLA or Luminol which has a peak in under 500nm can not be detected their signals in blood sample.)
- ✓ For measuring antioxidant

### AB-2980 NIR-CLA (3512013)

**Major Components** indocyanine imidazopyrazinone compound  
Molecular weight 1156Da

**Volume** 0.1mg powder

**Storage** -80°C

Luminometer

On ATTO Web site

Various apparatus available



High sensitive Luminoscent Detector Luminometers  
[AB-2270 Luminescencer Octa]



Luminometer

# ATTO Ez Series (Reagent) List

	Model	Product Name	Code No.	Page
Protein Extraction kit	WSE-7420	<i>EzRIPA Lysise kit</i>	2332336	1
Organella Extraction kit	WSE-7421	<i>EzSubcell Extract</i>	2332337	1
Organella Fractionation kit	WSE-7422	<i>EzSubcell Fraction</i>	2332338	1
Phosphate Buffer Saline	WSE-7430	<i>EzPBS(-)</i>	2332380	1
SDS-PAGE Sample Preparation kit	AE-1430	<i>EzApply</i>	2332330	2
Sample Preparation kit for 2D	AE-1435	<i>EzApply 2D Kit</i>	2332335	2
Protein Fluorescent Labeling kit	WSE-7010	<i>EzLabelFluoroNeo</i>	2332333	2
Loading Dye for DNA Electrophoresis	WSE-7040	<i>EzApply DNA</i>	2332394	2
Neutral Gel Casting Buffer	WSE-7310	<i>EzGel Ace</i>	2332327	3
Stacking Gel Casting Buffer for Gel Polyacrylamide Electrophoresis	WSE-7155	<i>EzGel Stack</i>	2332329	3
Separating Gel Casting Buffer for Polyacrylamide Gel Electrophoresis	WES-7150	<i>EzGel Sep</i>	2332328	3
Electrophoresis Buffer for SDS-PAGE	AE-1410	<i>EzRun</i>	2332310	4
Electrophoresis Buffer for SDS-PAGE	AE-1412	<i>EzRun C+</i>	2332320	4
Tris-Tricine Running Buffer	AE-1415	<i>EzRun T</i>	2332325	4
Tris-Glycine Buffer	WSE-7055	<i>EzRun TG</i>	2332323	5-9
MOPS Running Buffer	WSE-7065	<i>EzRun MOPS</i>	2332326	5
Tris-Acetic acid Running Buffer	WSE-7050	<i>EzRun TAE</i>	2332391	5
Tris-Boric acid Running Buffer	WSE-7051	<i>EzRun TBE</i>	2332391	5
DNA Molecular Weight Marker	WSE-7030	<i>EzDNALadder</i>	2332342	6
Molecular Weight Marker for SDS-PAGE	AE-1440	<i>EzStandard</i>	2332340	6
Blue Marker for SDS-PAGE	AE-1450	<i>EzStandard PrestainBlue</i>	2332347	6
Three Color Prestained Marker for SDS-PAGE	WSE-7020	<i>EzProteinLadder</i>	2332346	6
C B B Stain	AE-1340	<i>EzStain AQua</i>	2332370	7
Silver Stain kit	AE-1360	<i>EzStain Silver</i>	2332360	7
Reverse(negative) Stain	AE-1310	<i>EzStain Reverse</i>	2332350	7
Spin Column for Extraction and Recovery of Proteins	AB-1171	<i>ATTOPREP MF</i>	3521370	7
Fluorescent Dye for Detection of DNA	WSE-7130	<i>EzFluoroStainDNA</i>	2332395	8
SDS Removal Reagent	AE-1390	<i>SDS-eliminant</i>	2332390	8
Blotting Reagent for Western Blotting	AE-1460	<i>EzBlot</i>	2332600	9
Transfer Buffer for Western Blotting	AE-1465	<i>EzFastBlot</i>	2332590	9
Transfer Buffer for High Molecular Weight Proteins	WSE-7210	<i>EzFastBlot HMW</i>	2332595	9
Non-Protein Blocking Reagent	AE-1475	<i>EzBlockChemi</i>	2332615	10
BSA Blocking Reagent	AE-1476	<i>EzBlock BSA</i>	2332616	10
Casein Blocking Reagent	AE-1477	<i>EzBlock CAS</i>	2332617	10
Washing Buffer for Western Blotting	WSE-7230	<i>EzTBS</i>	2332625	10
Tween Solution	WSE-7235	<i>EzTween</i>	2332626	10
H R P Chromogenic Substrate	AE-1490	<i>EzWestBlue</i>	2332630	12
H R P Chemiluminescence Substrate	WSE-7110	<i>EzWestLumiOne</i>	2332635	11
H R P High sensitive Chemiluminescence Substrate	WSE-7120S WSE-7120L	<i>EzWestLumi plus</i>	2332637 2332638	11
Antibody Stripping Reagent	WSE-7240	<i>EzReprobe</i>	2332530	11
Luminescent Reagent Superoxide detection	AB-2950	<i>MPEC</i>	3512010	13
Antioxidant Measurement kit	AB-2970	<i>CLETA-S</i>	3512011	13
Viable Bacteria Measurement kit	AB-2960	<i>BactoLumix</i>	3512020	13
Chemiluminescent reagent	—	1000 assay for BactoLumix	3512021	13
Near-Infrared Chemiluminescence reagent	AB-2980	<i>NIR-CLA</i>	3512013	13



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