

# Instruments

## smart solutions & service

# Aperçu des produits pour la biochimie

Une sélection de notre assortiment d'appareils et de produits  
biochimiques pour la biochimie des protéines, proteomics,  
biologie moléculaire etc.

Pour tous nos produits, nous offrons les prestations suivantes:  
conseils et aide à l'application, service de garantie, d'entretien  
et de réparation

---

#### IGZ Instruments AG

Furtbachstrasse 17 8107 Buchs ZH  
Niederlassungen/Succursales: Basel, Fribourg, Genève

Telefon 044 456 33 33  
Téléphone 022 343 91 60

igz.ch igz@igz.ch

## **Biochimie - Biologie moléculaire**

<b>Systèmes d'extraction d'acides nucléiques</b>	Fujifilm Wako
<b>Biochemicals</b>	FUJIFILM Wako
<b>ELISPOT et kits PCR</b>	AID
<b>EliSpot- FluoroSpot Reader</b>	AID
<b>Station de travail sous atmosphère contrôlée</b>	Baker Ruskinn
<b>Incubateurs CO2</b>	MMM - Binder - NBS/Eppendorf
<b>Materiel à usage unique en plastique</b>	Sterilin
<b>Systèmes de stockage et de rangement</b>	National Lab
<b>Accessoires de laboratoire THOMAPOR</b>	Reichelt

### **IGZ Instruments AG**

Furtbachstrasse 17 8107 Buchs ZH  
Niederlassungen/Succursales: Basel, Fribourg, Genève

Telefon 044 456 33 33  
Téléphone 022 343 91 60

igz.ch igz@igz.ch

# Biochimie - Biologie moléculaire

## Systèmes d'extraction d'acides nucléiques

Systèmes de préparation rapide des échantillons d'ADN et d'ARN

**FUJIFILM**  
Value from Innovation

QuickGene Mini80, système semi-automatique  
QuickGene Mini480, système semi-automatique  
QuickGene 240, système automatique



## Biochemicals

**FUJIFILM Wako propose des réactifs pour les sciences de la vie et plus spécifiquement dans le domaine de la recherche cellulaire, recherche sur le cancer et microRNA ainsi que pour la recherche en chimie organique ou chimie analytique.**

**FUJIFILM**  
Value from Innovation

ELISA Kits, kits d'extraction ADN  
Anticorps pour la recherche sur alzheimer ou l'apoptose  
Substances physiologiquement actives allant de 17-AAG à Xestospongin  
MicroRNA Cloning Kit, ssDNA Ligase, microRNA Isolation Kit  
(Human/Mouse Ago2, Anti Human/Mouse Ago2)  
Catalogue complet et plus de détails sous [www.wako- chemicals.de](http://www.wako-chemicals.de)



## ELISPOT et kits PCR

**Les kits de diagnostic AID se distinguent par l'amplification par PCR de l'ADN à analyser avant l'hybridation. Ce procédé permet une analyse précise et fiable même pour une faible quantité d'ADN.**

**qID**

Borrelien ELISPOT: Anti-Borrelia burgdorferi-IgG - Immunoblot, Anti-Borrelia burgdorferi-IgM-Immunoblot, "Shared Epitope" et Lyme-Arthritis  
MRSA combi: détection de staphylocoques dorés et détermination simultanée des gènes de résistance aux macrolides, bêta-lactames, tétracycline, aminoglycoside et quinolone  
HPV Easy-Screening: détection du papillomavirus humain et différenciation de génotypes "à risque élevé" et "à risque faible", identification des génotypes HPV 16 et 18  
CAP Bacteria: dépistage des pathogènes les plus fréquents lors d'infection bactérienne (CAP)



## IGZ Instruments AG

Furtbachstrasse 17 8107 Buchs ZH  
Niederlassungen/Succursales: Basel, Fribourg, Genève

Téléfon 044 456 33 33  
Téléphone 022 343 91 60

igz.ch igz@igz.ch

# Biochimie - Biologie moléculaire

## EliSpot- FluoroSpot Reader

Lecteur de microplaques 96 puits



EliSpot Reader Classic: Lecteur de microplaques 96 puits basique

vSpot Reader Spectrum, EliSpot/FluoroSpot Reader haute résolution pour divers formats de plaques

iSpot Reader Spectrum, lecteur de microplaques 96 puits très haute résolution EliSpot/FluoroSpot Reader



## Station de travail sous atmosphère contrôlée

**BAKER RUSKINN**

La série Ruskinn Invivo est dédiée à la culture de cellules en atmosphère contrôlée, hypoxique ou anoxique.

Invivo 200 et 300 (petites enceintes, capacité jusqu'à 300 boîtes de pétri)  
Invivo 400 (capacité jusqu'à 620 boîtes de pétri)  
Invivo 500 (capacité jusqu'à 600 boîtes de pétri)  
Invivo 1000 (capacité jusqu'à 1200 boîtes de pétri)  
SCI-tive et SCI-tive N: atmosphère régulée en température, taux d'oxygène et dioxyde de carbone pour une prévention ultime du stress cellulaire



## Incubateurs CO2

**BINDER**

IGZ propose un large assortiment d'appareils d'une capacité de 14 à 267 L. Le choix s'étend de l'équipement le plus simple et économique à la conception haut de gamme.

MMM: gamme d'incubateurs série CO2 Cell, 50 et 190 L

Binder: Série CB, Série CBS et Série CBF de 53, 170 et 267 L

NBS: incubateurs CO2 Galaxy séries S, C et R, 14 à 170 L



### IGZ Instruments AG

Furtbachstrasse 17 8107 Buchs ZH  
Niederlassungen/Succursales: Basel, Fribourg, Genève

Téléfon 044 456 33 33  
Téléphone 022 343 91 60

igz.ch igz@igz.ch

# Biochimie - Biologie moléculaire

## Materiel à usage unique en plastique

Sterilin propose une large gamme d'articles à usage unique en matière plastique pour la microbiologie, l'analyse de l'eau et la biologie moléculaire.



Boites de Pétri de toutes sortes et toutes grandeurs  
Micro-plaques à 96 puits 96  
Pipettes et pointes de pipettes  
Bouteilles pour analyse de l'eau  
Tubes cryogéniques et tubes Eppendorf



## Systèmes de stockage et de rangement



La gamme National Lab comprend des racks de toutes tailles (aussi sur mesure) ainsi que des boîtes pour microtubes PCR et EPPI, pour lames porte-objets, tubes à centrifuger ou cryotubes.

Racks en acier inox pour congélateurs horizontaux et verticaux  
Boîte en carton traité disponibles en 5 coloris et différentes tailles  
Boîtes en polypropylène, 10 couleurs au choix, codage alphanumérique  
Boîte en polycarbonate (cryoboîtes)  
Tiroirs en acier inoxydable sans séparateur pour le stockage des bouteilles etc.

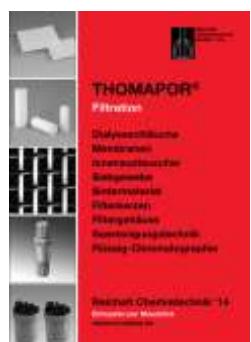


## Accessoires de laboratoire THOMAPOR



Reichelt Thomapor propose une large palette de d'accessoires de laboratoire allant du tuyau de dialyse à l'échangeur de ions. Tous les produits sont livrables rapidement et aussi en petites quantité.

Tuyau, chambres, cylindre et autres accessoires de dialyse  
Filtres ronds et membranes  
Membranes anions et cations  
Filtres et accessoires à usage unique en polystirène



## IGZ Instruments AG

Furtbachstrasse 17 8107 Buchs ZH  
Niederlassungen/Succursales: Basel, Fribourg, Genève

Téléfon 044 456 33 33  
Téléphone 022 343 91 60

igz.ch igz@igz.ch



Nucleic Acid Isolation System

# QuickGene-Mini480

*One For Each Person*



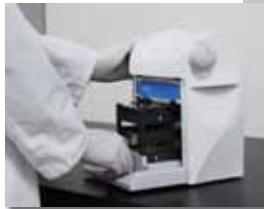
# Personal nucleic acid isolation device, on

QuickGene-Mini480 is a high-throughput compact system requiring no centrifugation in the isolation process, giving less strain to samples and enabling rapid nucleic acid isolation. DNA/RNA can be easily isolated from various samples including whole blood/tissue/cells/plants/virus and others.



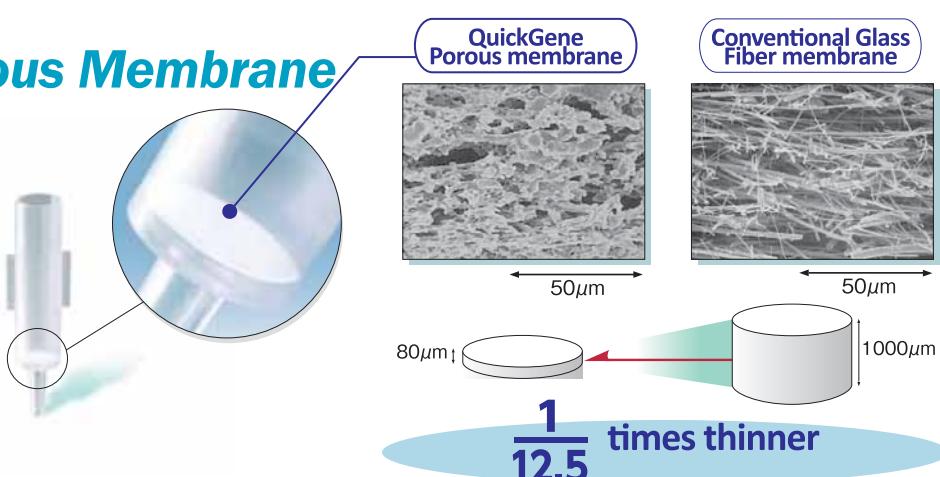
## Compact design

- The small, lightweight QuickGene-Mini480 takes up minimal space on the lab bench and is easy to carry.
- No need to move the samples from the lab bench without centrifugation throughout the whole isolation process.



## Revolutionary Porous Membrane

- The QuickGene-Mini480 uses patented porous membrane only 80μm thick.
- Depending on the outstanding adsorption/desorption performances of the membrane, high-purity nucleic acid can be easily obtained in high yield at low pressure.
- The ultra thin membrane enables nucleic acid isolation in shorter time than when compared to glass fiber membranes.



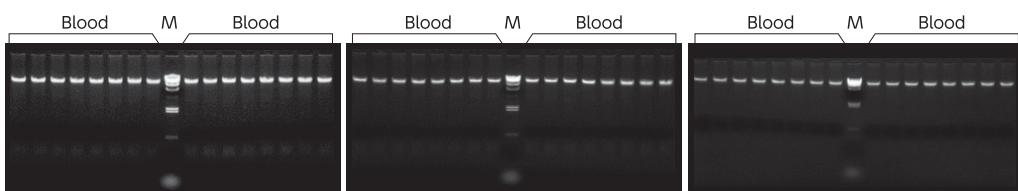
## High Purity, High Yield

- QuickGene-Mini480 can stably isolate nucleic acid in high yield.
- The isolated DNA/RNA can be directly applied to PCR, RT-PCR, Next Generation Sequencing Analysis, etc.

### DNA isolation from whole blood

● QuickGene DNA whole blood kit S (DB-S)

● Human whole blood 200μl (8×10<sup>5</sup> cell leukocytes)



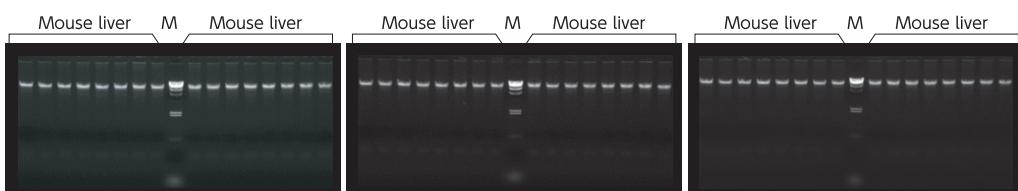
Yield and purity of genomic DNA	
Average*	
DNA Yield (μg)	5.6
Purity (260/280)	1.81
Purity (260/280)	1.80

\* Average of 48 samples

### DNA isolation from mouse tissue

● QuickGene DNA tissue kit S (DT-S)

● Balb/C mouse (♀) liver 10mg



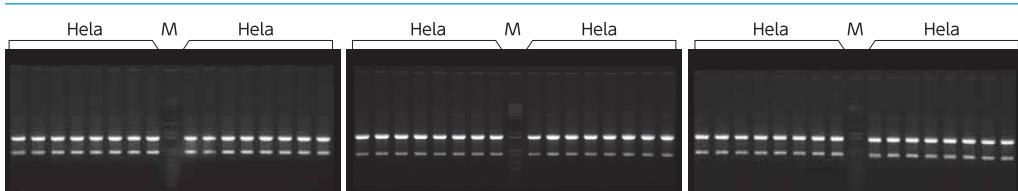
Yield and purity of genomic DNA	
Average*	
DNA Yield (μg)	7.2
Purity (260/280)	1.80
Purity (260/280)	2.12

\* Average of 48 samples

### RNA isolation from cultured cells

● QuickGene RNA cultured cell kit S (RC-S)

● Hela S3 Cell (1×10<sup>6</sup> cells)



Yield and purity of Total RNA	
Average*	
DNA Yield (μg)	26.4
Purity (260/280)	2.16
Purity (260/280)	2.19

\* Average of 48 samples

# one for each person

maximum throughput,  
up to 48 samples!!!

## Easy & Rapid Processing

- The operation is simple. Just set the sample and rotate the grey pressurizing Rotary Switch on both side of the device.
- No centrifugation process, no need to remove and transfer the liquid after sample pre-treatment to save valuable time.
- Process 1 to 48 samples per run. And enhance usability by using Multichannel Pipettes. (NEW)

### Pressurizing Process



1 Apply lysate



2 Set pressure seal plate



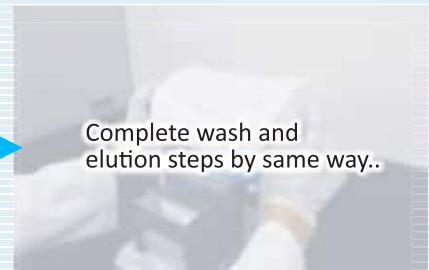
3 Set (Waste tube/cartridge) holder



4 Turn Rotary Switch to  
pressurize the first Row

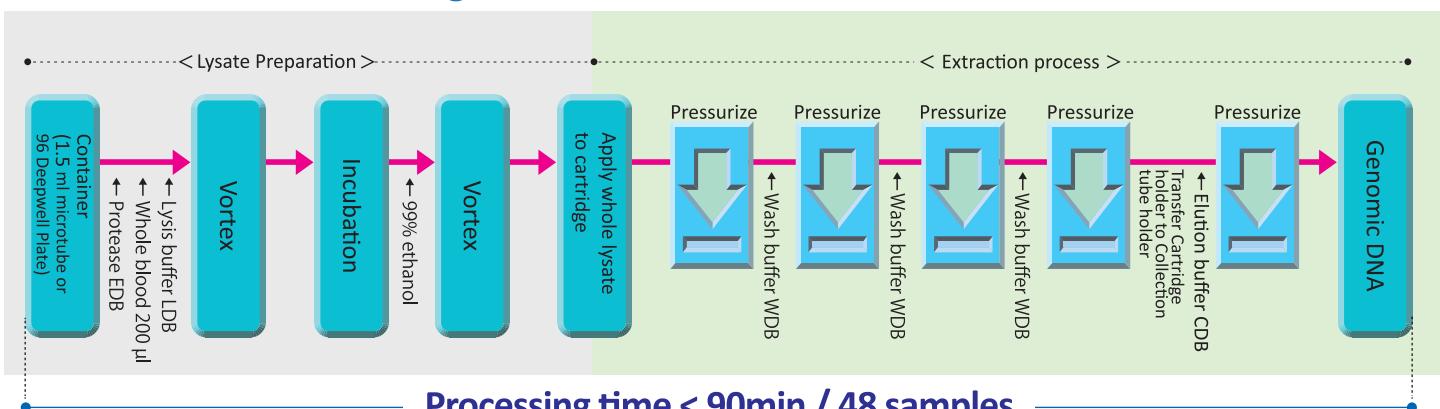


5 Row by row pressurizing



Complete wash and  
elution steps by same way..

### Workflow of isolation using DNA whole blood kit



※ Including sample pretreatment time

※ In case of using DB-S kit, 96 Deepwell Plates and Multichannel Pipettes.



- 1) Set holder into system
- 2) Rotate pressurizing switch toward the front side to start pressurizing
- 3) Make sure that there is no residual liquid in the cartridge and return the pressurizing switch to original position
- 4) Pull out holder from system

# Easy isolation from various samples

- Appropriate kit selectable depending on sample.

## SPECIFIC ISOLATION KITS

- QuickGene isolation kits are optimized for the system to isolate DNA and RNA in the shortest time and with the highest quality.
- Environmentally friendly isolation can be conducted without using hazardous organic solvents.

	Samples	Isolation kits	Reference code	Isolation Time	Isolation example
For DNA isolation	Human/Animal whole blood (EDTA blood, heparin blood), Buffy coat, Plasma, Serum	DNA whole blood kit S	DB-S [For 96 samples]	45 min / 48 samples	ca.5µg / 200µl whole blood
	Animal tissue, Plants, Insects, Fish and Shellfish, Cheek swab, Paraffin-embedded samples, Cultured cells, Bacteria, Virus, Materials, manufactured goods	DNA tissue kit S	DT-S [For 96 samples]	50 min / 48 samples	ca.4µg / 5mg Balb/c Mouse tail
	Plasmid	Plasmid kit S II	PL-S2 [For 96 samples]	40 min / 48 samples	ca.12.5µg / 1ml culture pBlueScript II/GAPDH/DH5a
For RNA isolation	Animal tissue, Insects, Virus, etc.	RNA tissue kit S II	RT-S2 [For 96 samples]	60 min / 48 samples	ca.100µg / 30mg Mouse liver
	Adherent / Non-adherent cultured cell (Hela, HL60,etc.); Plant tissue, etc.	RNA cultured cell kit S	RC-S [For 96 samples]	60 min / 48 samples	ca.10µg / 1 × 10 <sup>6</sup> cells HL60 cell
	Cultured cell on 6/10cm dish (Maximum number of cells is 1 × 10 <sup>6</sup> )	RNA cultured cell HC kit S	RC-S2 [For 96 samples]	60 min / 48 samples	90~150µg / 10cm dish cultured HEK293 cell
	Leukocytes separated by Ammonium chloride Erythrocytes of whole blood or Ficoll fraction	RNA blood cell kit S	RB-S [For 96 samples]	70 min / 48 samples	ca.4.5µg / 1 × 10 <sup>7</sup> cells Leukocytes

\*The kits are not supplied with QuickGene-Mini480. Select the desired kit(s) and order it(them) separately.

\*Isolation time does not include the process of sample pretreatment.

## QuickGene-Mini480 Specifications

### Overview

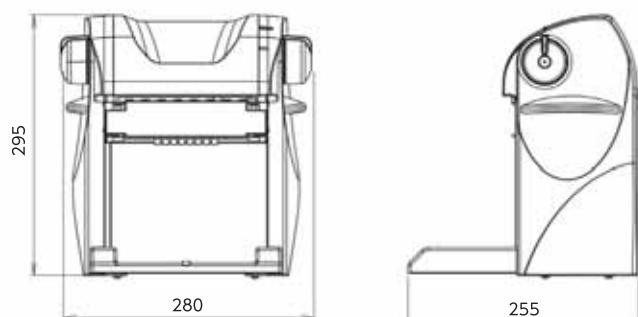
- Throughput : 1 to 48 samples per run

### Physical specifications

- Dimensions: 280(W)×260(D)×300(H) mm
- Weight: Approx. 3.3kg

### Operating conditions

- Supply voltage : AC100~240V
- Power supply frequency : 50 / 60 Hz
- Operating conditions : Temperature: 15~30°C  
Humidity: 30~80% (non-condensing)



\*Research use only

All brand names and product names are trademarks or registered trademarks of their respective companies.  
Design and specifications are subject to change without notice.



KURABO INDUSTRIES LTD. Bio-Medical Department

14-5, Shimokida-cho, Neyagawa-shi, Osaka 572-0823, Japan  
Phone: +81-72-820-3079 FAX: +81-72-820-3095  
Email: bio@ad.kurabo.co.jp  
www.kurabo.co.jp/bio/English/



# New methods for Analysis of Phosphorylation Molecules

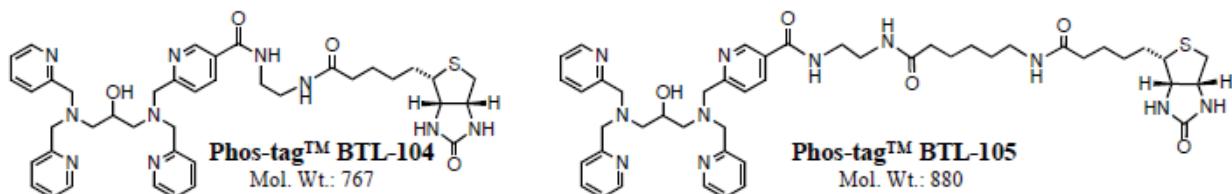
## Phos-tag™

301-93531 Phos-tag™ Biotin (BTL-104) 10mg

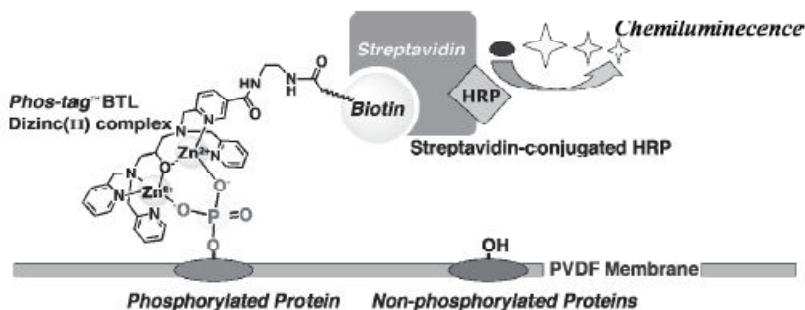
308-93541 Phos-tag™ Biotin (BTL-105) 10mg

Phos-tag™ Biotin BTL-104 and BTL-105 provide a sensitive method for detection of phosphorylated protein on PVDF membrane.

- ✓ Blocking treatment of PVDF membrane is not necessary.
- ✓ Downstream procedure such as antibody reprobing and MS analysis are applicable.
- ✓ The procedure is similar to those using a HRP-conjugated antibody.



### Principle of Phos-tag™ Method



305-93551 Phos-tag™ Mass Analytical Kit (MS-101KIT) 1set

This set is for mass analysis.

### Contents: Phos-tag™ MS-101L, MS-101H or MS101N

- ✓ An equivalent amount of acetate anion binds to Phos-tag MS-101.
- ✓ Anion-free Phos-tag MS-101 is a +3 ion in aqueous solution.
- ✓ Prepare a 1mM solution of Phos-tag MS-101L, MS-101H or MS-101N in H<sub>2</sub>O.



**MS-101L = C<sub>27</sub>H<sub>29</sub>N<sub>6</sub>O<sup>64</sup>Zn<sub>2</sub><sup>3+</sup>**  
Mol. Wt.: 581.4

**MS-101H = C<sub>27</sub>H<sub>29</sub>N<sub>6</sub>O<sup>68</sup>Zn<sub>2</sub><sup>3+</sup>**  
Mol. Wt.: 589.4

**MS-101N = C<sub>27</sub>H<sub>29</sub>N<sub>6</sub>OZn<sub>2</sub><sup>3+</sup>**  
Mol. Wt.: 584.3

Wako

Listed products are intended for laboratory research use only, and not to be used for drug, food or human use. Price may change without notice.

**Wako Pure Chemical Industries, Ltd.**

<http://www.wako-chem.co.jp>

1-2, Doshomachi 3-Chome  
Chuo-Ku, Osaka 540-8605, Japan  
Tel: 81-6-6203-3741  
Fax: 81-6-6203-1999

**Wako Chemicals USA, Inc.**

<http://www.wakousa.com>

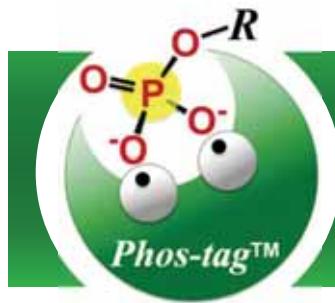
Toll-Free (U.S. only): 1-877-714-1920  
**Head Office** (Richmond, VA):  
Tel: 1-804-714-1920 / Fax: 1-804-271-7791  
**Los Angeles Sales Office** (Irvine, CA):  
Tel: 1-949-679-1700 / Fax: 1-949-679-1701  
**Boston Sales Office** (Cambridge, MA):  
Tel: 1-617-354-6772 / Fax: 1-617-354-6774

**Wako Chemicals GmbH**

<http://www.wako-chemicals.de>

**European Office:**  
Fuggerstraße 12, D-41468  
Neuss, Germany  
Tel: 49-2131-311-0  
Fax: 49-2131-311100

**Wako**



# Phos-tag™ Series

★ New Tools for Research on Phosphorylated Proteins

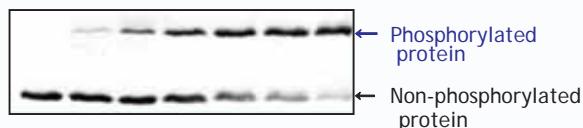
## What's Phos-tag ?

Phos-tag™ is a functional molecule that specifically binds all phosphorylated forms of Ser/Thr/Tyr. It is applicable for the specific separation of phosphorylated proteins as well as for the western blot detection, purification by agarose gel chromatography and MALDI-TOF/MS analysis. Following five kinds of lineup are available:

### Separation

*Specific Separation of phosphorylated proteins*

#### 1 Phos-tag™ Acrylamide



#### 2 SuperSep Phos-tag™ - Ready-to-Use Precast Gels

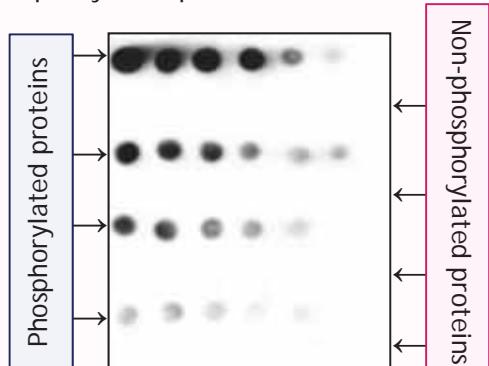


### Detection

#### 3 Phos-tag™ Biotin

*Achieves Specific Detection without anti-phosphorylated antibodies*

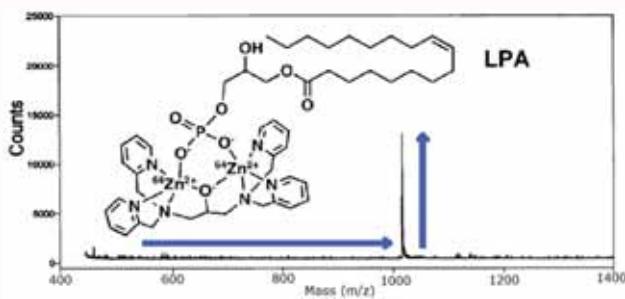
Applicable to Chemiluminescence detection of phosphorylated proteins



### Analysis

#### 4 Phos-tag™ Mass Analytical Kit For MALDI-TOF MS

*Sensitive for detection of phosphorylated molecules.*



#### 5 Purification by gel chromatography Phos-tag™ Agarose



*Phosphorylated proteins can be trapped in physiological condition (pH 7.5).*

**【Application】**  
Purification of phosphorylated protein in A431 lysate

M: Molecular Marker  
Lane 1: Non absorbed fraction  
Lane 2: Absorbed fraction  
Lane 3: Colum rinsing fraction

# Separation

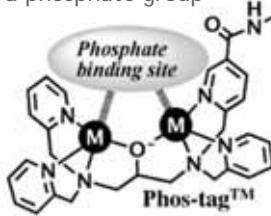
## 1 for Preparation of Self-made Acrylamide Gel **Phos-tag™ Acrylamide**

### ■ Features

1. Recognizes and separates all phosphorylated forms of Ser / Thr / Tyr
2. Corresponds to the degrees and the positions of phosphorylation
3. Almost the same procedure as that of a conventional SDS-PAGE
4. Operates with your electrophoresis tank

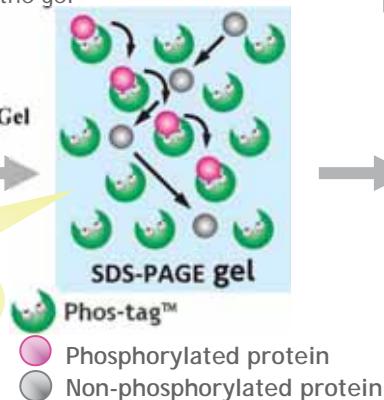
### ■ Principle

Two metallic ions cooperate to bind a phosphate group

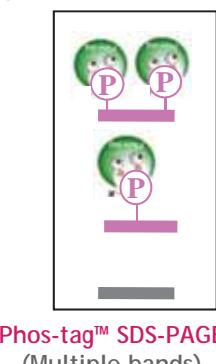
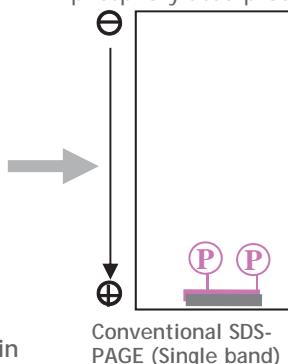


Isoforms with different numbers and positions of phosphorylation can also be separated.

Phosphorylated proteins move while being bound by Phos-tag™ in the gel



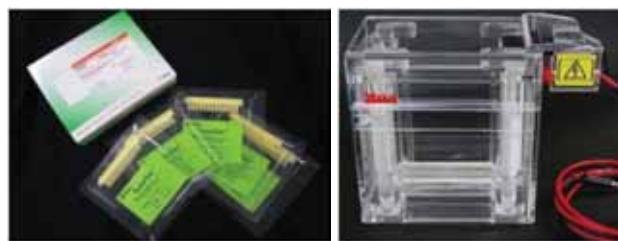
Migration speed of phosphorylated proteins decreases and they are separated from non-phosphorylated proteins.



**Phos-tag™ PAGE GUIDEBOOK**  
for researchers who use Phos-tag™ Acrylamide newly. Please contact us.

## 2 Ready-to-Use Precast Gels **SuperSep Phos-tag™** (50 µmol/L Phos-tag™ Acrylamide contained)

Wako



SuperSep Phos-tag™

EasySeparator  
– an electrophoresis tank optimized with SuperSep precast gel

### ■ Features

1. Ready-to-use
2. Safety due to precast gel
3. Long-term stability (Stable for 6 months)
4. Almost the same basic mechanism as that of SDS-PAGE
5. Excellent storage stability by its neutral gel buffer.

Note:

Before using SuperSep precast gel, check a sample for migration pattern problems with "SuperSep Ace" or conventional SDS-PAGE.

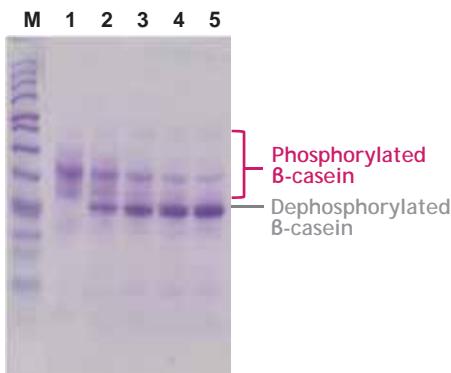
Plate Size	100 x 100 x 3 (mm)		
Gel Size	90 x 85 x 1 (mm)	Acrylamide Conc.	10%; 12.5%; 15% or 17.5 %
Well number	13	ZnCl <sub>2</sub> Conc.	100 µmol/L
Phos-tag™ Conc.	50 µmol/L	Well volume	30 µL

### ■ Application ~ Dephosphorylation over time of β-casein ~

SuperSep Ace, 12.5%, 13 wells



SuperSep Phos-tag™, 12.5%, 13 wells



[Buffer] Tris-Glycine-SDS electrophoresis buffer  
[Sample]

M: WIDE-VIEW™ Prestained Protein Size Marker III

1: 0 min. β-casein (with AP treatment)

2: 15 min. β-casein (with AP treatment)

3: 30 min. β-casein (with AP treatment)

4: 45 min. β-casein (with AP treatment)

5: 60 min. β-casein (with AP treatment)

AP: alkaline phosphatase

[Condition] Constant current 35 mA for 60 min.

[Staining] Quick-CBB Staining

(Wako Cat. No. 299-50101)

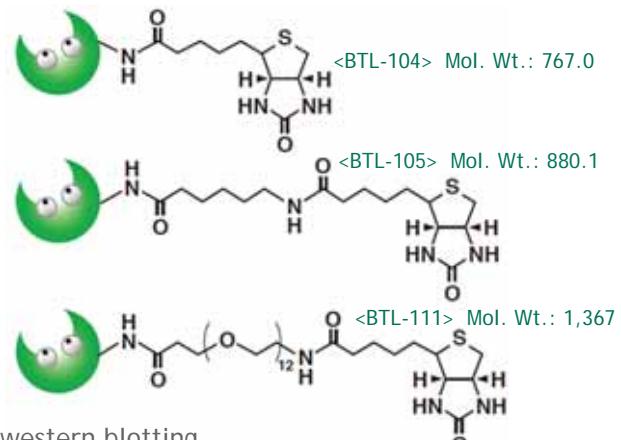
[Destaining] Deionized water with microwave treatment

β-casein was dephosphorylated over time.

Dephosphorylated β-casein can be separated from β-casein with SuperSep Phos-tag™.

### 3 for Specific Detection of Phosphoproteins on PVDF membrane **Phos-tag™ Biotin**

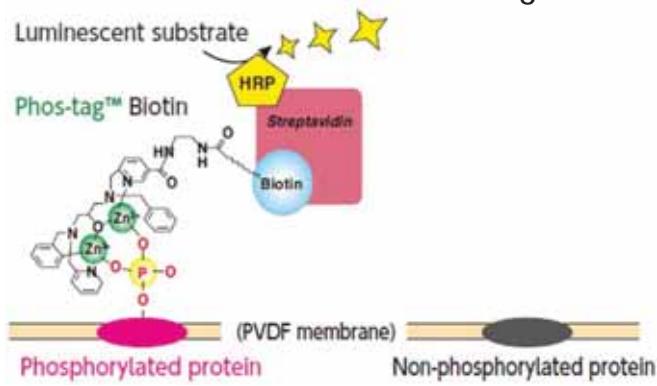
This is biotin-bound Phos-tag™ used for detection of phosphoproteins by western blotting. Specific detection without any anti-phosphorylated antibodies on Western blot. Detection is possible regardless of type of phosphorylated amino acid. BTL-104, BTL-105 and BTL-111 have linkers with different lengths. Although the usage of BTL-104 and BTL-105 are similar, BTL-104 is recommendable as the first choice because of its high solubility. BTL-111 offers higher sensitivity.



#### ■ Features

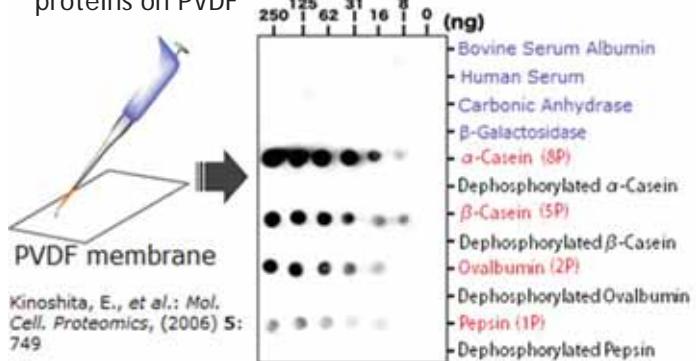
1. All phosphoproteins can be detected.
2. Procedures of the experiment are similar to those in ordinary western blotting.
3. Specific detection without any anti-phosphorylated antibodies on western blot.

#### ■ Schematic of western blotting



#### ■ Application: Dot-blotting analysis

- Chemiluminescence detection of phosphorylated proteins on PVDF



Description		Pkg. Size	Wako Cat. No.	Manufacturer (Prod. #)
<b>For Specific Separation of Phosphorylated Forms of Ser/Thr/Tyr</b>				
1	Phos-tag™ Acrylamide AAL-107, 5 mM Aqueous Soln.	0.3 mL (0.9 mg)	304-93526	NARD (AAL-107S1)
	Phos-tag™ Acrylamide AAL-107	2 mg	300-93523	NARD (AAL-107M)
		10 mg	304-93521	NARD (AAL-107)
<b>Ready-to-Use Phos-tag™ Precast Gels</b>				
2	SuperSep Phos-tag™ (50 µmol/L), 10%, 13 well	5 gels	193-16711	Wako
	SuperSep Phos-tag™ (50 µmol/L), 10%, 17 well	5 gels	190-16721	
	SuperSep Phos-tag™ (50 µmol/L), 12.5%, 13 well	5 gels	195-16391	
	SuperSep Phos-tag™ (50 µmol/L), 12.5%, 17 well	5 gels	193-16571	
	SuperSep Phos-tag™ (50 µmol/L), 15%, 13 well	5 gels	193-16691	
	SuperSep Phos-tag™ (50 µmol/L), 15%, 17 well	5 gels	196-16701	
	SuperSep Phos-tag™ (50 µmol/L), 17.5%, 13 well	5 gels	197-16851	
	SuperSep Phos-tag™ (50 µmol/L), 17.5%, 17 well	5 gels	194-16861	
<b>Related Products</b>				
3	EasySeparator <An electrophoresis tank for SuperSep>	1 set	058-07681	Wako
	Wide-View Prestained Protein Size Marker III (11~245 kDa)	500 µL (200 tests)	230-02461	
<b>For Detection of Phosphoproteins on PVDF membrane</b>				
3	Phos-tag™ Biotin BTL-104	10 mg	301-93531	NARD (BTL-104)
	Phos-tag™ Biotin BTL-105	10 mg	308-93541	NARD (BTL-105)
	Phos-tag™ Biotin BTL-111, 1 mM Aqueous Soln.	0.1 mL	308-97201	NARD (BTL-111S1)

# Analysis

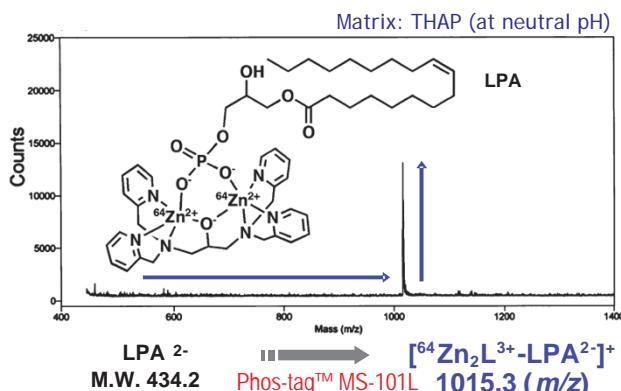
4

## MALDI-TOF/MS with High Sensitivity Phos-tag™ Mass Analytical Kit

**NARD**  
Institute, Ltd.

Before use, Phos-tag™ Mass Analytical Kit is mixed with samples for MALDI-TOF/Mass analysis. Phosphorylated molecule-Phos-tag™ complex is detected in a positive mode, and phosphorylated molecule usually difficult to detect can be detected with improved sensitivity.

### Application: Detection of Phosphorylated LPA complex with Phos-tag™



#### 【Kit Contents】

- Phos-tag™ MS-101L ( $C_{27}H_{29}N_6O^{64}Zn^{3+}$  MW: 581.4) 5 mg
- Phos-tag™ MS-101H ( $C_{27}H_{29}N_6O^{68}Zn^{3+}$  MW: 589.4) 5 mg
- Phos-tag™ MS-101N ( $C_{27}H_{29}N_6OZn^{3+}$  MW: 584.3) 10 mg



Phos-tag™ Mass Analytical Kit

By the increased positive charge, detection sensitivity of phosphorylated LPA was improved

# Purification

## 5 Purification of Phosphorylated proteins by Affinity Chromatography Phos-tag™ Agarose

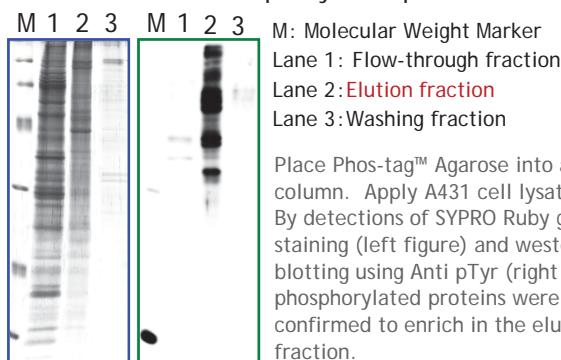
MANAC Incorporated

### Features

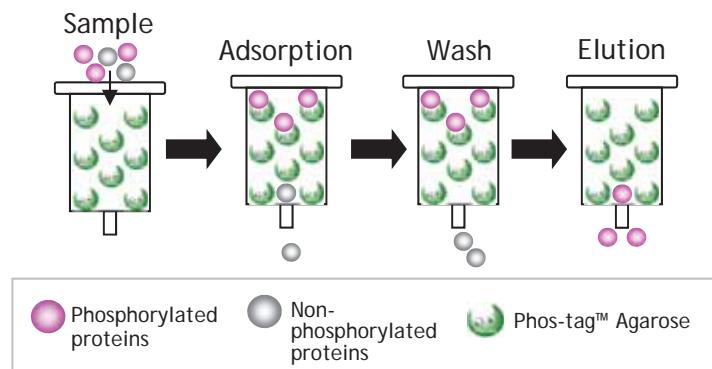
1. Phosphorylated proteins can be purified in 1 hour.
2. Proteins can be trapped in physiological condition (pH 7.5).
3. Purified with no reducing agent or surfactant.

### Application:

-Purification of Phosphorylated proteins in A341 lysate



### Principle of Phosphate Affinity Chromatography



	Description	Pkg. Size	Wako Catalog No.	Product No.	Note
4	Phos-tag™ Mass Analytical Kit	1 Set	305-93551	MS-101KIT	For MALDI-TOF MS
5	Phos-tag™ Agarose	0.5 mL	302-93561	AG-501	For enrichment, separation and purification
		3 mL	308-93563	AG-503	

Listed products are intended for laboratory research use only, and not to be used for drug, food or human use.  
Please visit our [online catalog](#) to search for other products from Wako: <http://www.e-reagent.com>

**Wako Pure Chemical Ind., Ltd.**  
[www.wako-chem.co.jp](http://www.wako-chem.co.jp)  
1-2, Doshomachi 3-Chome  
Chuo-Ku, Osaka 540-8605, Japan  
Tel: 81-6-6203-3741  
Fax: 81-6-6203-1999  
Online Catalog: [www.e-reagent.com](http://www.e-reagent.com)

**Wako Chemicals USA, Inc.**  
[www.wakousa.com](http://www.wakousa.com)  
Toll-Free (U.S. only): 1-877-714-1920  
Head Office (Richmond, VA):  
Tel: 1-804-714-1920/Fax: 1-804-271-7791  
Los Angeles Sales Office (Irvine, CA):  
Tel: 1-949-679-1700/Fax: 1-949-679-1701  
Boston Sales Office (Cambridge, MA):  
Tel: 1-617-354-6772/Fax: 1-617-354-6774

**Wako Chemicals GmbH**  
[www.wako-chemicals.de](http://www.wako-chemicals.de)  
Europe Office  
Fuggerstraße 12, D-41468  
Neuss, Germany  
Tel: 49-2131-311-0  
Fax: 49-2131-311100

You will find all you need for your proteomics research in our proteomics portfolio. Our range includes solutions to separate, detect and purify phosphorylated proteins as well as electrophoresis and staining processes.

## Lysyl Endopeptidase®, MS Grade

Among the most important techniques in proteome analysis is the in-gel digestion of protein spots/bands that have been resolved by electrophoresis using digestive enzymes, such as trypsin and lysyl endopeptidase. Proteins can be identified by mass spectrometry analysis of the peptides produced by in-gel digestion, and further information regarding post-translational modifications can be obtained. Lysyl Endopeptidase, Mass Spectrometry Grade, is a lyophilized product that retains sufficient activity for in-gel digestion and is packed in very small quantities for convenience purposes.



### Features

1. High specificity and efficiency of protein digestion allow for easy database searches by peptide mass.
2. Improved cleavage at lysine residue and increase in the number of peptides are obtained by combination with trypsin.
3. Packed in very small quantities in accordance with common usage guidelines, so sufficient activity is retained for in-gel digestion.

### Comparison of In-gel Digestion

#### Using Trypsin (Tp), Lysyl Endopeptidase (Lep) and Lep combined with Tp (Lep + Tp)

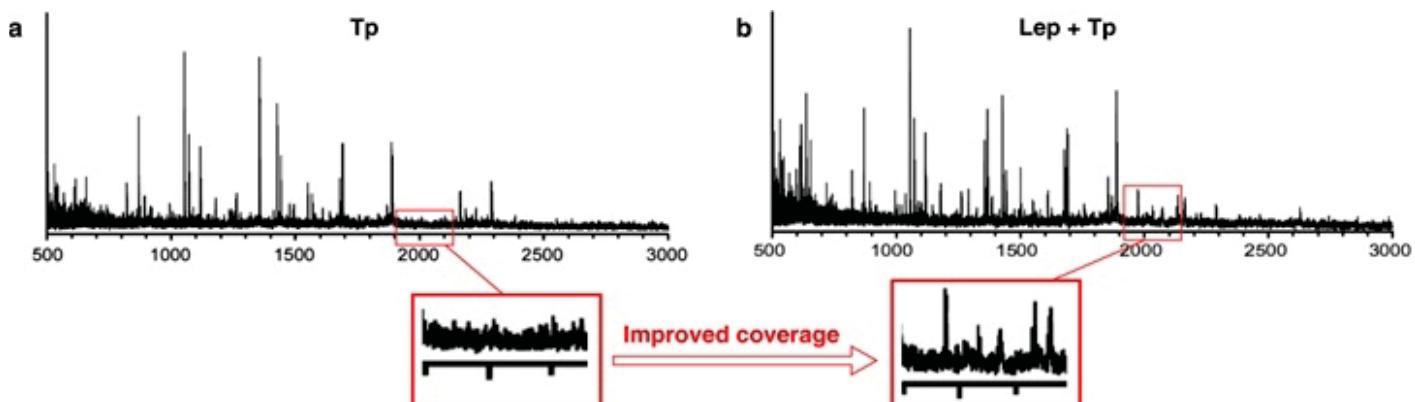
BSA band (100 ng) resolved by SDS-PAGE was in-gel digested with Tp, Lep and Lep + Tp and analyzed by MALDI-TOFMS. The figure shows the individual mass spectra. The evaluation is summarized in the table.

	Tp	Lep	Lep + Tp
Cleavage site	C terminal of Arg and Lys	C terminal of Lys	C terminal of Arg and Lys
Missed cleavage (Rates of missed cleavage) *1	Many (8%)	Very few (0 %)	Few (3%)
No. of identified peptides	17	19	22

Table: Comparison of Tp, Lep and Lep + Tp

\*1 The value resulted from subtracting the coverage obtained were performed with missed cleavage 0 from that obtained when performed with missed cleavage 1. "Coverage" is the percentage of peptides obtained after in-gel digestion in the whole sequence.

These results indicate there are very few missed cleavages obtained by Lep digestion. When Tp is used concomitantly with Lep, missed cleavages decrease and the number of identified peptides increase compared to when only Tp is used.



**Figure:** Comparison of the mass spectra of (a) Trypsin (*Tp*) and (b) Lysyl Endopeptidase (*Lep*) + *Tp*

The peaks at  $m/z$  2000 were obtained after digestion with *Lep* + *Tp*, but not with *Tp* alone. These results indicate improved sequence coverage. (Data provided by Dr. Y. Wada, Osaka Medical Center and Research Institute for Maternal and Child Health)

Description	Wako Cat. No.	Package Size	Grade
Lysyl Endopeptidase®, Mass Spectrometry Grade	125-05061	20µg x 5	for Proteome Research

## Related Products

Description	Wako Cat. No.	Package Size	Grade
Endoproteinase Asp-N, Sequencing grade	056-05921	2 µg	Sequencing Grade
Endoproteinase Glu-C, Sequencing grade	050-05941	50 µg	
V8 Protease [Endoproteinase Glu-C]	164-13982	2 mg	for Biochemistry

## References

1. Wada, Y., and Kadoya, M.: *J. Mass Spectrom.*, **38**, 117 (2003).
2. Shevchenko, A., Wilm, MM., Vorm, O., and Mann, M.: *Anal. Chem.*, **68**, 850 (1996).

## Life Science

Molecular Biology
Proteomics
Enzymes
Immunology
Cell Culture
Stem Cell Research
Neuroscience

## Analytical Reagents

Solvents
Standards for Pesticide Residue Analysis
Standards for Food Analysis
Standards for Water Analysis
Standards for HPLC
Reagents for Titration
Columns for HPLC and Presep(R) Series

## Fine Chemicals

Organic Chemicals
Catalysts
Ligands
Ionic Liquids



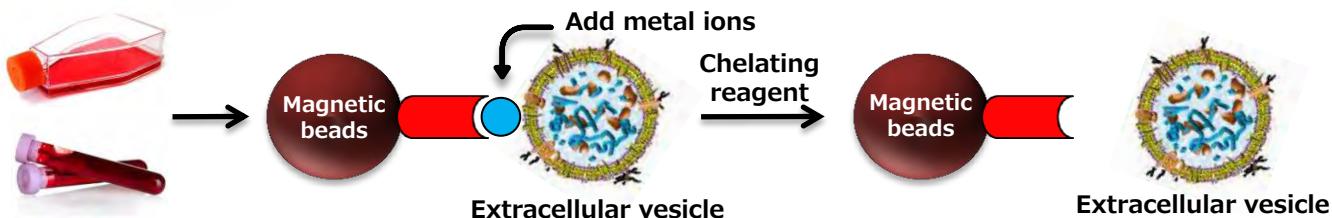
**Wako Chemicals GmbH**  
Fuggerstraße 12  
41468 Neuss  
Tel.: +49-(0)2131-311-0  
Fax: +49-(0)2131-311-100  
biochem@wako-chemicals.de  
www.wako-chemicals.de

*Isolation of high purity exosomes by a novel affinity molecule*

**MagCapture™**

# Exosome Isolation Kit PS

**A novel affinity-based method for phosphatidylserine (PS) on the surface of extracellular vesicles**



Extracellular vesicles are captured by phosphatidylserine (PS)-binding proteins and metal ions, then captured extracellular vesicles are eluted with a chelating reagent.

## Feature ~MagCapture™ Exosome Isolation Kit PS~

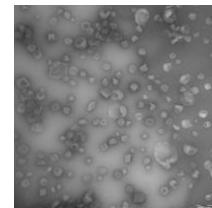
### Novel affinity method is adopted

- Recovering by PS-binding molecules
- Low background
- Mild elution with a chelating reagent under neutral pH condition



High purity exosomes can be easily isolated by PS affinity method.

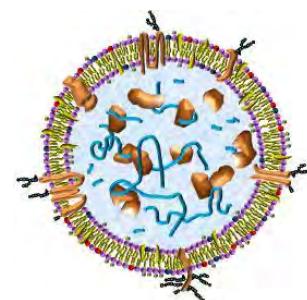
### High purity and intact exosomes



### Not required ultracentrifugation

- Easy operation with magnetic beads
- Optimized protocol for isolation

### High reproducibility



Comparison with other purification method			
Methods	Exosome purity	Exosome recovery	Intact vesicles recovery
MagCapture™ (PS affinity method)	■ ■ ■ ■ ■	■ ■ ■	Yes
Ultracentrifugation	■ ■	■ ■	Yes
Polymer-based precipitation	■	■ ■ ■ ■	Yes
Affinity method with antibody against surface antigen of exosome	■ ■ ■	■	No

**Target samples: cell culture supernatant, serum, plasma, urine, etc.**

Product Name	Package Size	Catalog No.	Storage
MagCapture™ Exosome Isolation Kit PS	2 purifications* <sup>1</sup>	299-77603	Keep at 2-10°C.
	10 purifications* <sup>1</sup>	293-77601	

\*1 Used **Exosome Capture-immobilized beads** can be recycled up to 4 times and buffers of kit component also be contained enough for the case of recycling. When repeated isolations of extracellular vesicles from same sample are required, please try the recycling. However, when repeated isolations of extracellular vesicles from different kinds of samples are required, please don't try the recycling for preventing a contamination.

## Comparing the yield of exosomes isolated from normal human serum

Exosomes were isolated from normal human serum by using MagCapture™, ultracentrifugation and affinity method with antibody against surface antigen of exosome, followed by western blot with the anti-CD9 and anti-CD63 antibodies.



Lane 1: Ultracentrifugation  
Lane 2: MagCapture™

Lane 3: Exosome Isolation reagent with antibody against CD9 [Company A]  
Lane 4: Exosome Isolation reagent with antibody against CD63 [Company A]  
Lane 5: Exosome Isolation reagent with antibody against CD81 [Company A]  
Lane 6: Exosome Isolation reagent with antibodies [Company A]  
(antibody beads-mixture of CD9, CD63, CD81 & EpCAM)

CD9, CD63 and CD81 are exosome markers.

Signals of each lanes are corresponding to 150 µL of serum sample. 15 µL of eluate and 5 µL of 4 × SDS sample buffer were mixed and applied all in each well.

The yield of exosomes by MagCapture™ is higher than ultracentrifugation and antibody-based method.



## Comparing the performance between conventional exosome isolation methods

The yield and purity were compared with exosomes isolated from a cell culture supernatant of K562 cells (human chronic myogenous leukemia: CML) by using MagCapture™, ultracentrifugation and polymer-based precipitation method. The cell culture supernatant was prepared from serum-free medium, or 10% Exosome-depleted FBS included medium.

### MagCapture™ Exosome Isolation Kit PS

Exosomes were recovered from 1 mL of pretreated (10,000 x g, 30 min) cell culture supernatant of K562 cells (serum-free medium or 10% exosome-depleted FBS included medium) by using MagCapture™ standard protocol (reaction time: 3 hours)

### Ultracentrifugation

10 mL of pretreated (10,000 x g, 30 min.) cell culture supernatant of K562 cells (serum-free medium or 10% exosome-depleted FBS included medium) were ultracentrifuged at 110,000 x g, 70 min., and the precipitates were suspended with TBS. Then, suspension was ultracentrifuged again and the precipitated pellet was recovered as exosome sample.

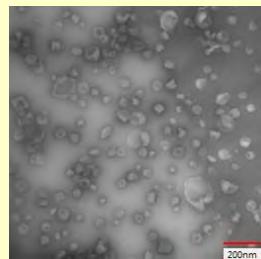
### Polymer-based precipitation

Exosomes were collected from 1 mL of pretreated (10,000 x g, 30 min) cell culture supernatant of K562 cells (serum-free medium or 10% exosome-depleted FBS included medium) by Company A's product in accordance with manual (Precipitation time: overnight).

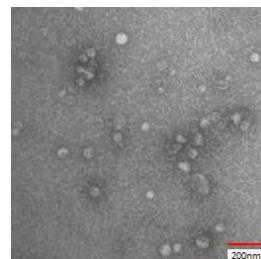
## Electron microscopic analysis and Nanoparticle tracking analysis of isolated exosomes

The particle size of exosomes isolated from cell culture supernatant of K562 cells (serum-free medium) using MagCapture™, ultracentrifugation and polymer-based precipitation, respectively was determined with NanoSight LM-10. In addition, the collected exosomes ( $2\text{-}4 \times 10^{10}$  particles) were fixed by 2% paraformaldehyde and analyzed by electron microscopy.

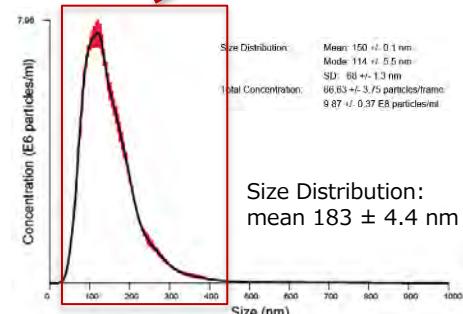
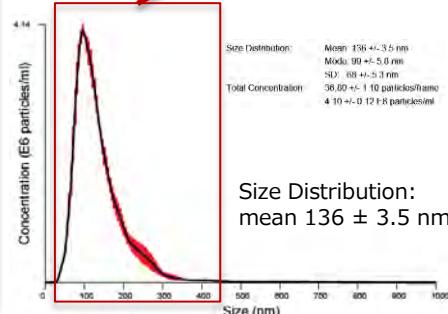
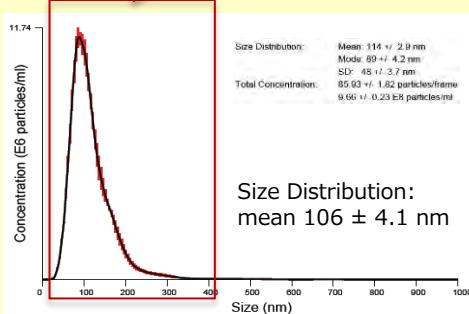
### MagCapture™



### Ultracentrifugation



### Polymer-based precipitation (Company A's product)



Electron microscope images were provided by Dr. R. Hanayama at Graduate School of Medicine, Kanazawa University and Dr. W. Nakai at iFReC, Osaka University.

MagCapture™ collected many particles around 50-100 nm in size. With electron microscopy, numerous extracellular vesicles can be seen.

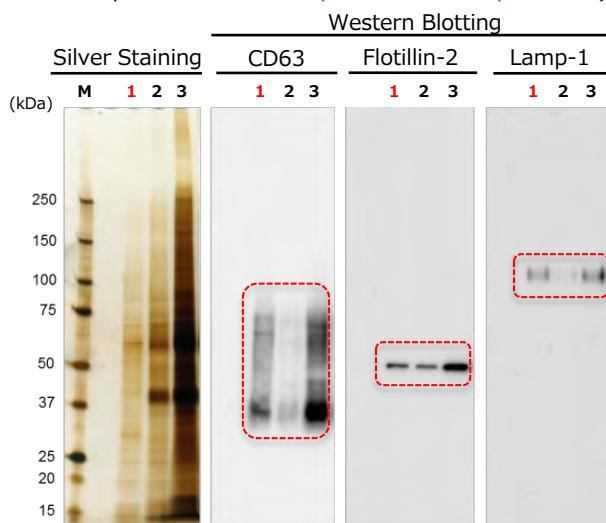


## Comparing the recovery amount and purity of exosomes (serum-free)

Exosomes were collected from cell culture supernatant of K562 cells (**serum-free medium**) by MagCapture™, ultracentrifugation and polymer-based precipitation. The recovery amount and purity were analyzed by silver staining and western blot with anti-CD63, anti-Flotillin-2 and anti-Lamp-1 antibodies.

### Comparison of recovery amount

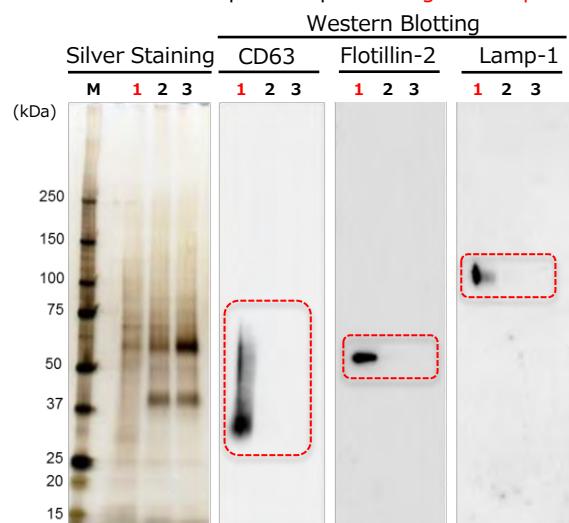
(Recovery amount from 150 µL cell culture supernatant)



Lane 1: MagCapture™  
Lane 2: Ultracentrifugation  
Lane 3: Polymer-based precipitation  
[Company A]

### Comparison of purity

(Amount of marker proteins per 200 ng of total protein)



With MagCapture™, the recovery performance of exosomes is excellent and the amount of contaminant of proteins is very low, so the balance of purity and recovery amount is the best!!

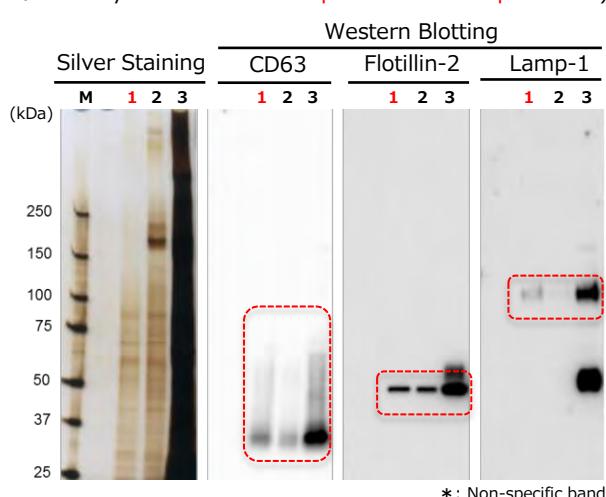


## Comparing the recovery amount and purity of exosomes (10% exosome-depleted FBS)

The exosomes were collected from cell culture supernatant of K562 cells (**10% exosome-depleted FBS included medium**) by MagCapture™, ultracentrifugation and polymer-based precipitation. The recovery amount and purity were analyzed by silver staining and western blot with anti-CD63, anti-Lamp-1 and anti-Flotillin-2 antibodies. Furthermore, collected samples by each method were analyzed by mass spectrometry and compared the percentage of human-derived peptides derived from K562 cells.

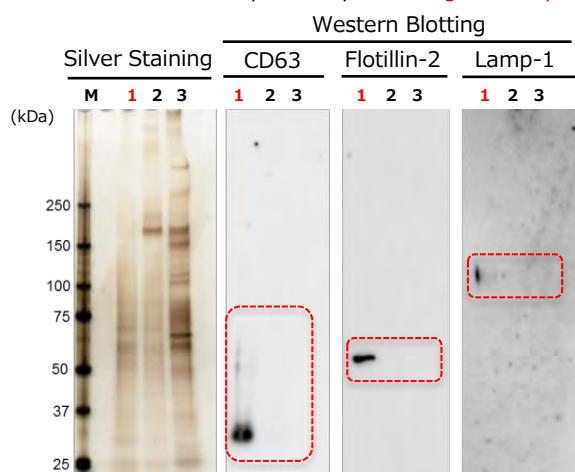
### Comparison of recovery amount

(Recovery amount from 150 µL cell culture supernatant)



### Comparison

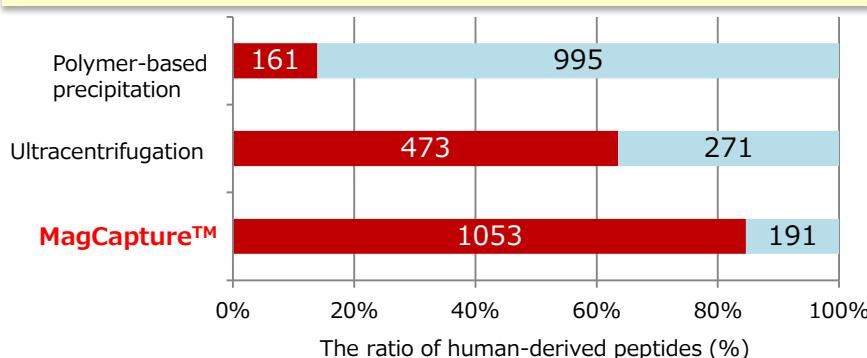
(Amount of marker proteins per 200 ng of total protein)



Lane 1: MagCapture™  
Lane 2: Ultracentrifugation  
Lane 3: Polymer-based precipitation  
[Company A]



### Comparing the percentage of human-derived peptides identified by MASS analysis

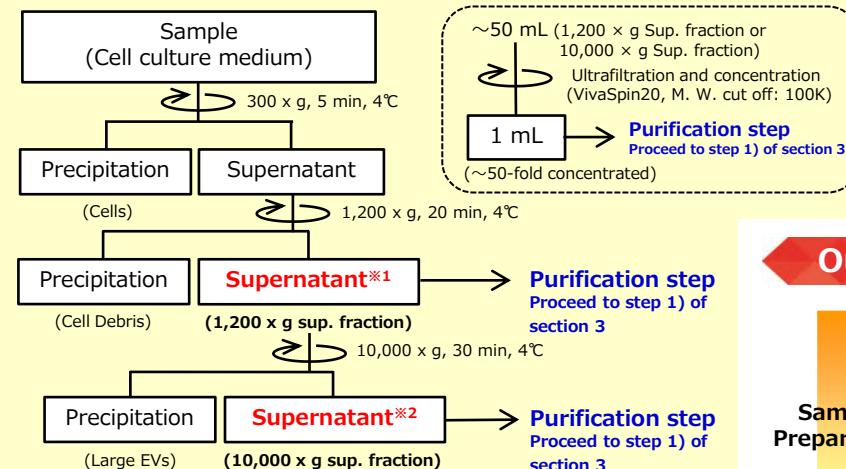


With MagCapture™, high purity exosomes are recovered even from culture medium with FBS, so MASS analysis can be done with low background!

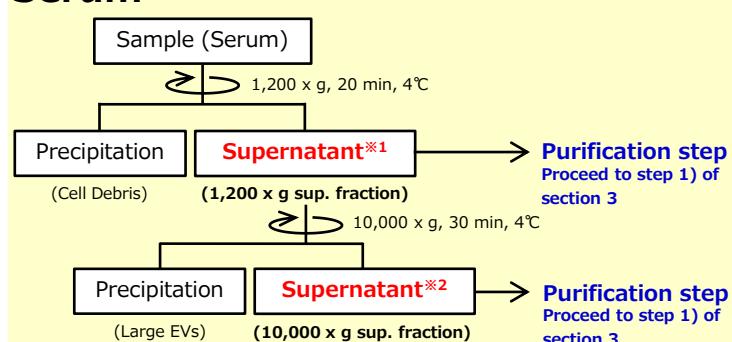
MASS analysis data was provided by Dr. R. Hanayama at Graduate School of Medicine, Kanazawa University and Dr. W. Nakai at iFReC Osaka University.

# Pretreatment protocol for cell culture supernatant, serum, and plasma

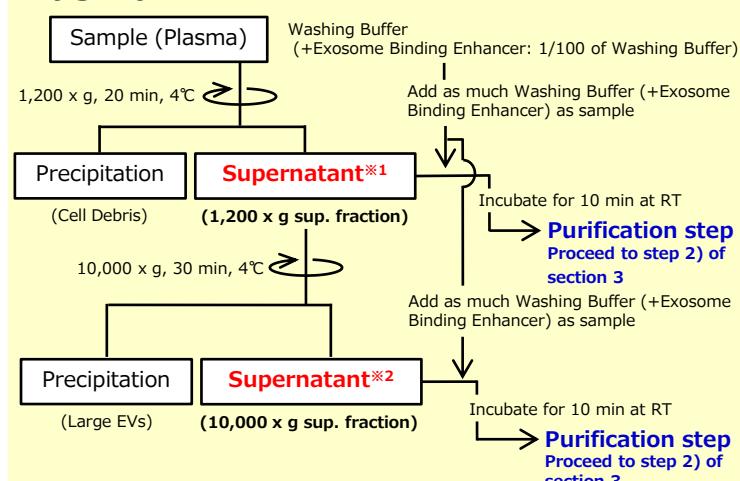
## Cell Culture Medium



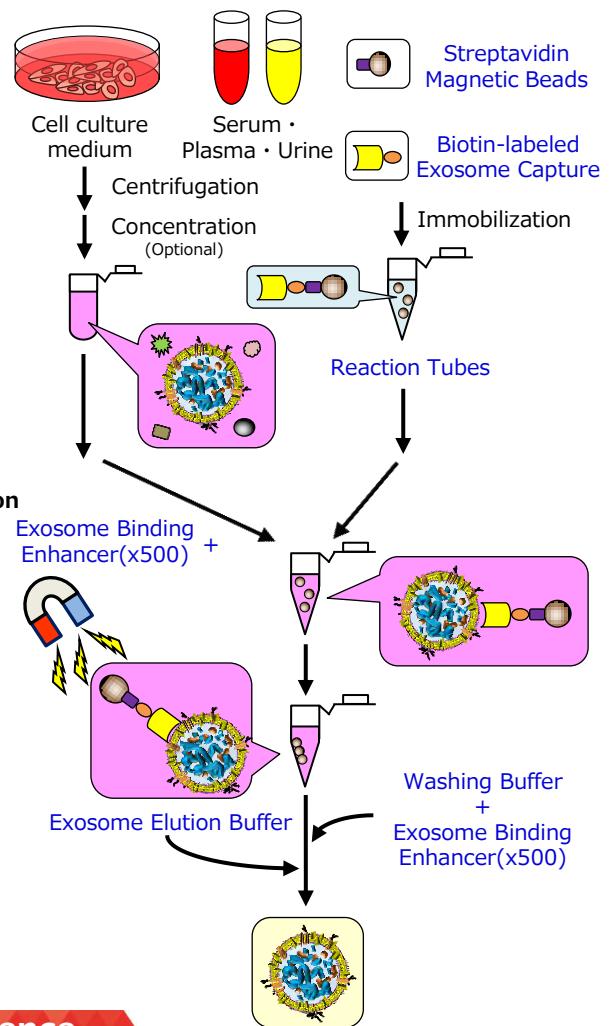
## Serum



## Plasma



## Outline of procedure



## Reference

"A novel affinity-based method for the isolation of highly purified extracellular vesicles", W. Nakai, T. Yoshida, D. Diez, Y. Miyatake, T. Nishibu, N. Imawaka, K. Naruse, Y. Sadamura & R. Hanayama, *Sci Rep* 6, 33935 (2016).

Listed products are intended for laboratory research use only, and not to be used for drug, food or human use. / Please visit our online catalog to search for other products from Wako; <http://www.e-reagent.com> / This leaflet may contain products that cannot be exported to your country due to regulations. / Bulk quote requests for some products are welcomed. Please contact us.

### Wako Pure Chemical Ind., Ltd.

[www.wako-chem.co.jp](http://www.wako-chem.co.jp)  
1-2, Doshomachi 3-Chome  
Chuo-Ku, Osaka 540-8605, Japan  
Tel: 81-6-6203-3741  
Fax: 81-6-6203-1999  
Online Catalog: [www.e-reagent.com](http://www.e-reagent.com)

### Wako Chemicals USA, Inc.

[www.wakousa.com](http://www.wakousa.com)  
1600 Bellwood Road  
Richmond, VA 23237, USA  
Toll-Free (U.S. only): 1-877-714-1920  
Tel: 1-804-714-1920  
Fax: 1-804-271-7791

### Wako Chemicals GmbH

[www.wako-chemicals.de](http://www.wako-chemicals.de)  
Europe Office  
Fuggerstraße 12, D-41468  
Neuss, Germany  
Tel: 49-2131-311-0  
Fax: 49-2131-311 100

For Dementia Research

# Tau Antibody Series

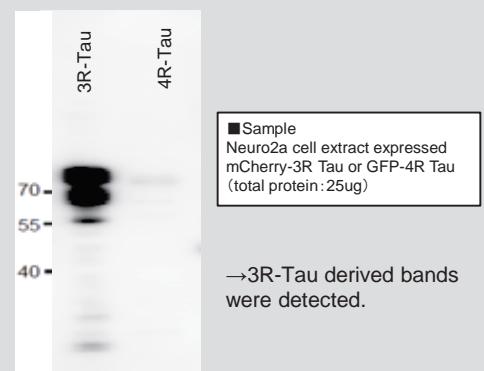
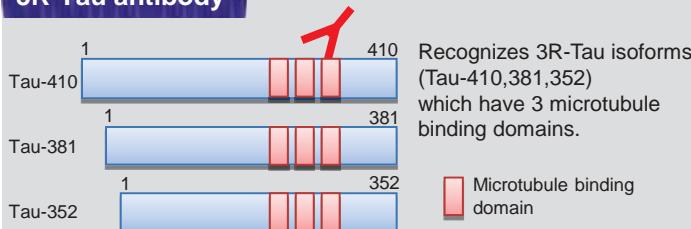
## 3R-Tau/4R-Tau /Phospho-Tau T181/Phospho-Tau S199 antibody

Tau is a microtubule-associated protein, mainly expressed in neurons in the central nervous system, and regulates stabilization of microtubules. In the brain of Alzheimer's disease patients, neurofibrillary tangles are formed which are composed of accumulated phosphorylated forms of Tau. The degree of these tangles correlates to the severity of dementia. Based on this finding, Tau has been investigated to find out the etiology and to discover drugs for Alzheimer's disease.

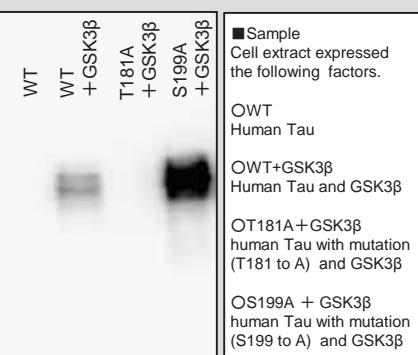
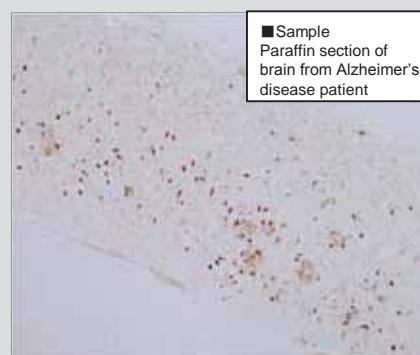
Wako provides 4 kinds of Tau antibodies(3R-Tau, 4R-Tau, Phospho-Tau T181, and Phospho-Tau S199 antibody).

### Application Data

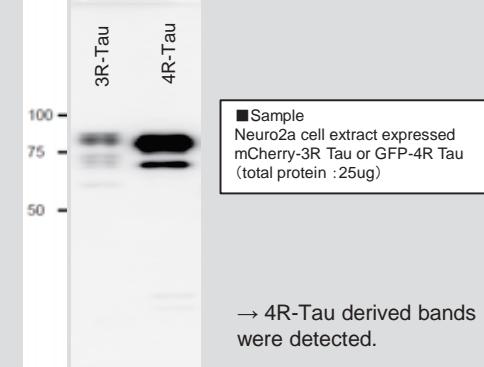
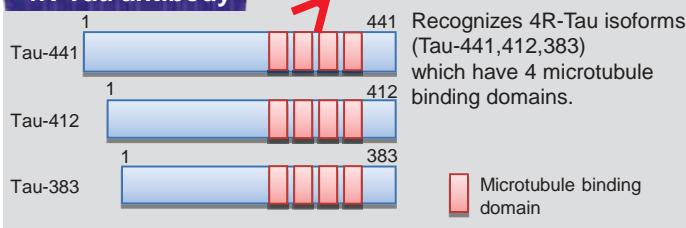
#### 3R-Tau antibody



#### Phospho-Tau T181 antibody



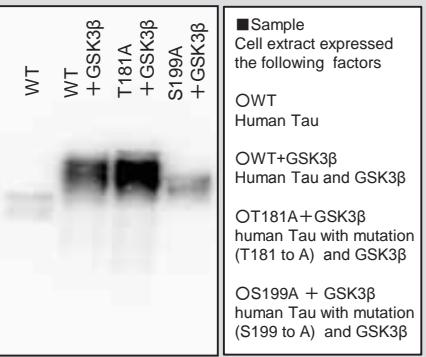
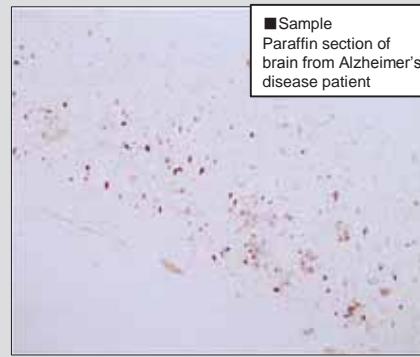
#### 4R-Tau antibody



#### Phospho-Tau S199 antibody



Recognizes Tau with phosphorylated Serine at position 199(pS199).



## Antibody Information

	3R-Tau antibody	4R-Tau antibody	Phospho-Tau T181 antibody	Phospho-Tau S199 antibody
Wako Cat. No	016-26581	013-26591	016-26601	013-26611
Description	Recognizes 3R-Tau isoforms (Tau-410,381,352) which have 3 microtubule binding domain.	Recognizes 4R-Tau isoforms (Tau-441,412,383) which have 4 microtubule binding domain.	Recognizes Tau with phosphorylated threonine at position 181(pT181).	Recognizes Tau with phosphorylated Serine at position 199(pS199).
Antigen	Synthetic peptide (267-274,306-313a.a. region of human Tau)	Synthetic peptide (273-291a.a. region of human Tau)	Synthetic peptide (171-191a.a. region of human Tau with phosphorylated T181)	Synthetic peptide (189-209a.a. region of human Tau with phosphorylated S199)
Isotype	Rat IgG <sub>2b,λ</sub>	Mouse IgG <sub>1,κ</sub>	Rat IgG <sub>2b,κ</sub>	Rat IgG <sub>2a,κ</sub>
Species cross reactivity	Human	Human	Human	Human
Clone No.	2A1-1F4	3E8-1A6	2E2-A6	5B8-1E2
Application	Western blotting (1:1,000-2,000) Immunoprecipitation(1:100)	Western blotting (1:1,000-2,000) Immunoprecipitation(1:100)	Western blotting (1:1,000) Immunohistochemistry (1:100-1,000)	Western blotting (1:1,000) Immunohistochemistry (1:100-1,000)

## Product List

Product Name	Wako Cat. No	Pkg. Size	Grade	Storage Condition
<b>Anti 3R-Tau, Rat Monoclonal Antibody (2A1-1F4)</b>	016-26581	50 μL	For Immunochemistry	Keep at -20°C.
<b>Anti 4R-Tau, Monoclonal Antibody (3E8-1A6)</b>	013-26591	50 μL	For Immunochemistry	Keep at -20°C.
<b>Anti Phosphorylated Tau T181, Rat Monoclonal Antibody (2E2-A6)</b>	016-26601	50 μL	For Immunochemistry	Keep at -20°C.
<b>Anti Phosphorylated Tau S199, Rat Monoclonal Antibody (5B8-1E2)</b>	013-26611	50 μL	For Immunochemistry	Keep at -20°C.

## ◆Related Products

Product Name	Wako Cat. No	Pkg. Size	Grade	Storage Condition
Tau-441 Protein, Human, recombinant	205-20331	100μg	For Cell biology	Keep at -20°C
Tau-412 Protein, Human, recombinant	208-20321	100μg	For Cell biology	Keep at -20°C
Tau-410 Protein, Human, recombinant	201-20311	100μg	For Cell biology	Keep at -20°C
Tau-383 Protein, Human, recombinant	204-20301	100μg	For Cell biology	Keep at -20°C
Tau-381 Protein, Human, recombinant	201-20291	100μg	For Cell biology	Keep at -20°C
Tau-352 Protein, Human, recombinant	204-20281	100μg	For Cell biology	Keep at -20°C
Tau Protein 4-Repeat Domain, Human, recombinant	209-20351	100μg	For Cell biology	Keep at 2-10°C.
Tau Protein 3-Repeat Domain, Human, recombinant	202-20341	100μg	For Cell biology	Keep at 2-10°C.

Listed products are intended for laboratory research use only, and not to be used for drug, food or human use.

Please visit our online catalog to search for other products from Wako: <http://www.e-reagent.com>

This leaflet may contain products that cannot be exported to your country due to regulations. Bulk quote requests for some products are welcomed. Please contact us.

### Wako Pure Chemical Ind., Ltd.

www.wako-chem.co.jp  
Headquarters: Japan  
1-2, Doshomachi 3-Chome  
Chuo-Ku, Osaka 540-8605, Japan  
Tel: 81-6-6203-3741  
Fax: 81-6-6203-1999

**Online Catalog:** [www.e-reagent.com](http://www.e-reagent.com)

### Wako Chemicals USA, Inc.

www.wakousa.com  
United States  
1600 Bellwood Rd  
Richmond, VA 23237 USA  
Toll-Free (U.S. only): 1-877-714-1920  
Tel: 1-804-714-1920  
Fax: 1-804-271-7791

### Wako Chemicals GmbH

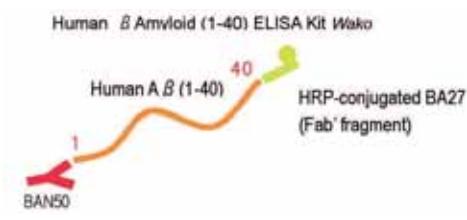
www.wako-chemicals.de  
Europe  
Fuggerstraße 12, D-41468  
Neuss, Germany  
Tel: 49-2131-311-0  
Fax: 49-2131-311100

## Alzheimer's Disease Research

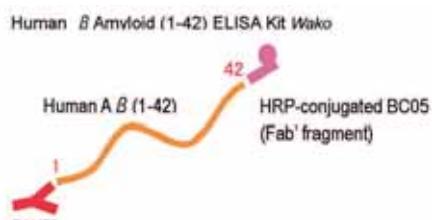
Alzheimer's Disease (AD) is characterized by the presence of extracellular senile plaques (SPs) and intracellular neurofibrillary tangles (NFT) in the brain. The major protein component of SPs is  $\beta$  Amyloid peptide (A $\beta$ ). There are two types of A $\beta$ , one is the 40, the other one is the 42 (43). These 40 or 42 (43) amino acid peptides are cleaved from the Amyloid Precursor Protein (APP) by  $\beta$ -Secretase and  $\gamma$ -Secretase. In our kits, monoclonal antibodies are involved which specifically detect A $\beta$ . The kits are designed to be used for the quantitative determination of A $\beta$  in samples such as tissue culture medium, tissue homogenate, CSF (Cerebral Spinal Fluid), and plasma.

### [Principle]

#### 1. Human $\beta$ Amyloid (1-40) ELISA Kit Wako

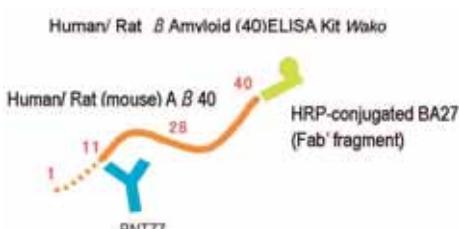


#### 2. Human $\beta$ Amyloid (1-42) ELISA Kit Wako

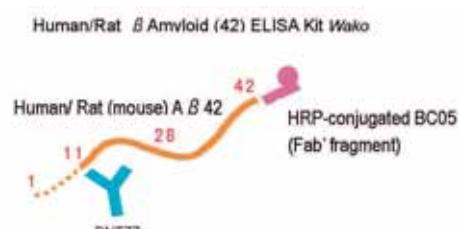


### [Principle]

#### 3. Human/ Rat $\beta$ Amyloid (40)ELISA Kit Wako



#### 4. Human/Rat $\beta$ Amyloid (42) ELISA Kit Wako



Description	Wako Cat. # (Pkg. Size)	$\beta$ Amyloid, measured						Dynamic Range (pmol/L)
		human A $\beta$ (1-40)	human A $\beta$ (1-42)	rat(mouse) A $\beta$ (1-40)	rat(mouse) A $\beta$ (1-42)	A $\beta$ (x-40)	A $\beta$ (x-42)	
Human $\beta$ Amyloid (1-40) ELISA Kit Wako [BAN50/BA27(Fab')]	① 292-62301 (96 tests)	●	—	—	—	—	—	1.0~100
Human $\beta$ Amyloid (1-40) ELISA Kit Wako I <sup>*</sup> [BAN50/BA27(Fab') <sub>2</sub> ] Achieved stable antigen-antibody reaction	② 298-64601 (96 tests)	●	—	—	—	—	—	1.0~100
Human $\beta$ Amyloid (1-42) ELISA Kit Wako [BAN50/BC05 (Fab')]	298-62401 (96 tests)	—	●	—	—	—	—	1.0~100
Human $\beta$ Amyloid (1-42) ELISA Kit Wako High-Sensitive** [BAN50/BC05 (Fab')]	③ 296-64401 (96 tests)	—	●	—	—	—	—	0.1~20.0
Human/Rat $\beta$ Amyloid (40) ELISA Kit Wako [BNT77/BA27(Fab')]	④ 294-62501 (96 tests)	●	—	●	—	●	—	1.0~100
Human/Rat $\beta$ Amyloid (40) ELISA Kit Wako II <sup>*</sup> [BNT77/BA27(Fab') <sub>2</sub> ] Achieved stable antigen-antibody reaction	⑤ 294-64701 (96 tests)	●	—	●	—	●	—	1.0~100
Human/Rat $\beta$ Amyloid (42) ELISA Kit Wako [BNT77/BC05(Fab')]	290-62601 (96 tests)	—	●	—	●	—	●	1.0~100
Human/Rat $\beta$ Amyloid (42) ELISA Kit Wako High-Sensitive** [BNT77/BC05 (Fab')]	⑥ 292-64501 (96 tests)	—	●	—	●	—	●	0.1~20.0

\*: Improved  $\beta$  Amyloid (1-40) and (x-40)\*\*\* Detection Kits

These products are detection kits that achieve more stable antigenantibody reactions by using F(ab')<sub>2</sub> fragment of the labeled antibody BA27, which recognizes the C-terminal of A $\beta$ 40, while the nonspecific binding is remaining to be reduced. Therefore, the stability in washing solution is improved. In Human/Rat kit, background is reduced.

\*\*: Highly Sensitive  $\beta$  Amyloid (1-42) and (x-42)\*\* Detection Kits

These ELISA kits detecting  $\beta$  amyloid (1-42) and (x-42) that ensure highly sensitive detection. These  $\beta$  amyloids are indicated to have a correlation with Alzheimer's disease. Detection sensitivity of the kits is about 10 times higher than that of the conventional products and the dynamic range is from 0.1 to 20.0 pmol/L. Fab' fragment of the labeled antibody is used as well so that the nonspecific binding is reduced.

\*\*\* Ab (x-40) and (x-42) are A $\beta$  peptide modified or cleaved at the N-terminal.

## ■ ScreenFect™ A Transfection Efficiency & Example of Cell Lines Transfected



New Liposome developed by click chemistry

# ScreenFect™ A

DNA & siRNA Transfection Reagent

**Wako**

Highly efficient transfection & Low cell toxicity

Applicable to both DNA & siRNA

Examples of Cell Lines Successfully transfected with ScreenFect™ A Transfection Reagent

No.	Cell Strain	Source	No.	Cell Strain	Source
1	HEK293	human embryonic kidney cells	18	U937	rat myoblast cells
2	HELA	cervical cancer cells	19		human histiocytic leukemia cells
3	MCF7	breast cancer cells	20	HUVEC	human umbilical vein endothelial cells
4	A431	epidermoid carcinoma cells	21	HL7704	human adult hepatocyte cells
5	MEF	mouse fibroblast	22	BEI7402	human hepato/endothelial carcinoma cells
6	mES	mouse embryonic stem cells	23	THP-1	human acute monocytic leukemia cells
7	PAC2	fibroblast zebrafish cells	24	SK-Hep1	human liver adenocarcinoma cells
8	MPA	monkey adenocarcinoma cells	25	786-O	human renal proximal tubular cells
9	AB9	caudal fin of adult zebrafish	26	HKC-8	human esophageal immortalization cells
10	Irs-1	murine insulinoma cells	27	NE3	human hepatoblastoma cells
11	P388D1	Macrophages	28	PLC8024	mouse embryonic fibroblast cells
12	M23CT3-E1	osteoblast like cell line	29	NH3T3	madin-Darby canine kidney cells
13	L02	human hepatic cell line	30	MG6	monkey kidney fibroblast cells
14	MCF-10a	human mammary epithelial cells	31	MDCK	human epidermal cancer cells
15	HepG2	human liver carcinoma cells	32	Cos-7	primary cells from liver tissue
16	Du145	human prostate carcinoma cells	33	HeP-2	
17	RAW264.7	murine macrophage leukemia cells	34		

Application data as of April, 2013

Requires no medium change after transfection

Serum Compatible

**ScreenFect™ A** is a transfection reagent composed of new cationic lipids selected by screening experiments <sup>※1</sup> by click chemistry. It is applicable to cell lines from various eukaryotic species and can be directly added to medium containing antibiotic and serum.  
**ScreenFect™ A** works with DNA and siRNA and can show highly efficient transfection in common cell lines (Hela, HepG2, MDCK, Cos-7, etc.), stem cells (mouse embryonic stem cells, etc.), blood cells (macrophage, THP-1, RAW264.7, etc.), primary culture cells.  
Because of the low cell toxicity, medium change after transfection is not required. Furthermore, this kit does not contain any poisonous and deleterious components.

※1 Biomaterials, 2012 Nov; 33 (32): 8160-6. 2012

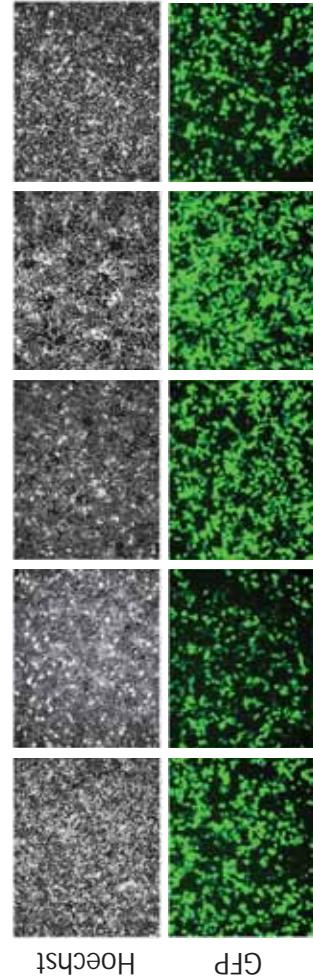
## ■ ScreenFect™ A Product List

ScreenFect™ A	<Wako Catalog No. >	293-73201	299-73203	297-73204
<Kit Contents>	<Package Size>	<b>0.2 mL</b>	<b>1 mL</b>	<b>1 mL x 5</b>

Listed product is intended for laboratory research use only. And not to be used for drug, food or human use.

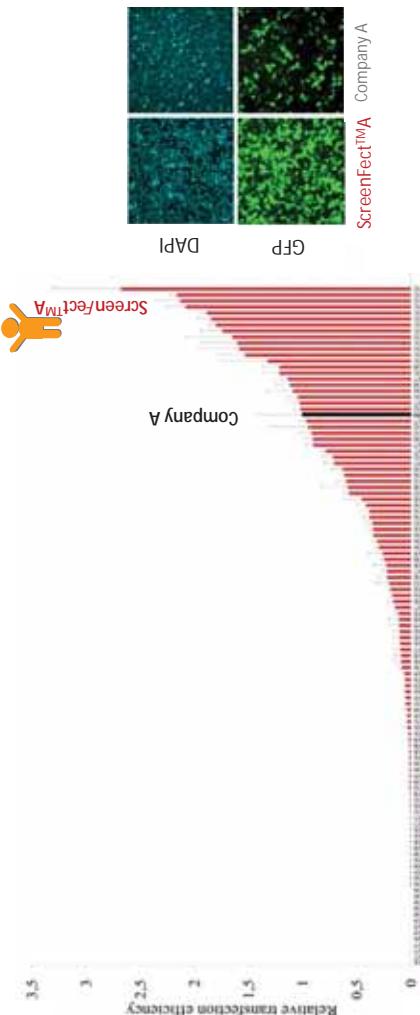
Wako Pure Chemical Ind., Ltd.	Wako Chemicals USA, Inc.	Wako Chemicals GmbH
www.wakousa.com	www.wakousa.com	www.wako-chemicals.de
Toll-Free (U.S. only): 1-877-714-1920	Toll-Free (U.S. only): 1-877-714-1920	Europe Office
Head Office (Richmond, VA):	Head Office (Richmond, VA):	Fuggerstraße 12, D-41468
Tel: 1-804-714-1920/Fax: 1-804-271-7791	Tel: 1-804-714-1920/Fax: 1-804-271-7791	Neuss, Germany
Los Angeles Sales Office (Irvine, CA):	Los Angeles Sales Office (Irvine, CA):	Tel: 49-2131-311100
Tel: 1-949-679-1700/Fax: 1-949-679-1701	Tel: 1-949-679-1700/Fax: 1-949-679-1701	Fax: 49-2131-311100
Boston Sales Office (Cambridge, MA):	Boston Sales Office (Cambridge, MA):	
Tel: 1-617-354-6772/ Fax: 1-617-354-6774	Tel: 1-617-354-6772/ Fax: 1-617-354-6774	

13503GJ



ScreenFect™ A was successfully transfected into HEK 293 cell using ScreenFect™ A. The transfection efficiency is the same or more than that of competitor's products commercially available.  
(using 96 well plate, GFP-expressing plasmid: 75 ng/well)

## ■ Transfection Efficiency of Liposome Library



Biomaterials. 2012 Nov; 33(32):8160-6. 2012  
GFP-expressing plasmid was transfected into HEK 293T cells using a library of newly developed cationic liposome synthesized by click chemistry. Company A's conventional product is shown as positive control. ScreenFect™ A showed the best efficiency at minimal toxicity.

## ■ ScreenFect™ A Protocol

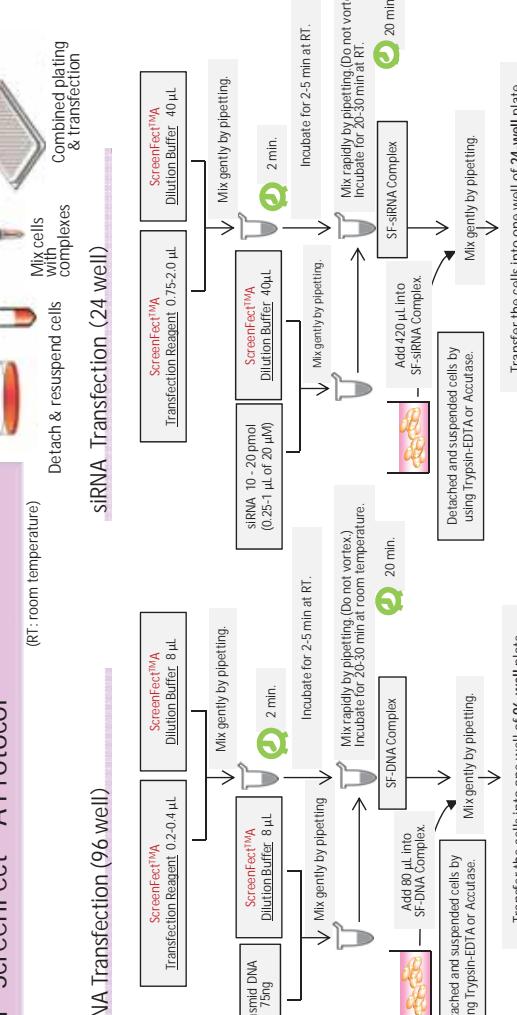
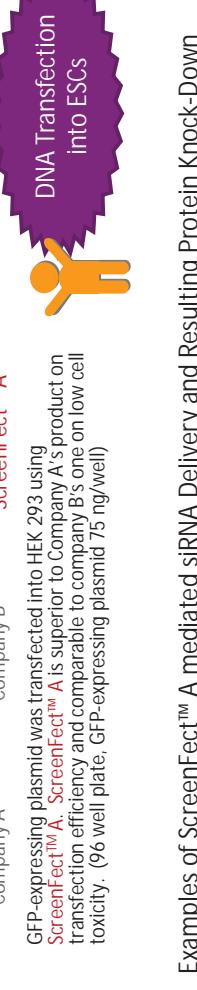
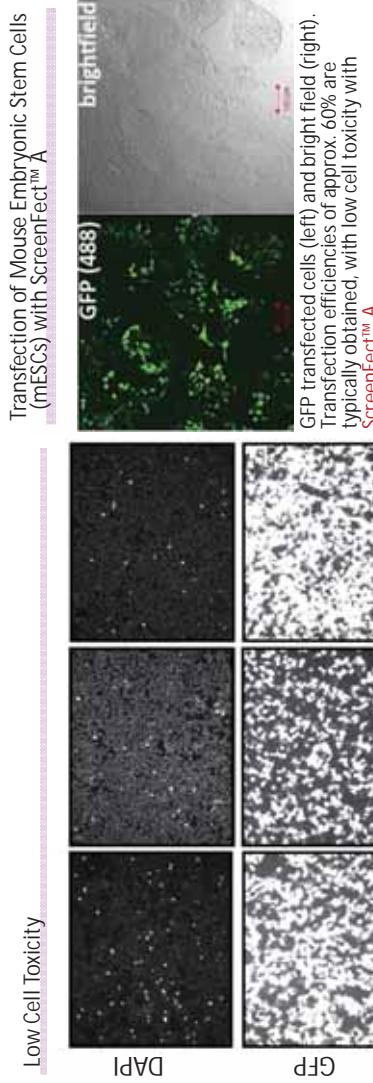


Plate size	Surface area	Medium volume	Total volume SF-DNA complex	DNA /Dilution Buffer	SiRNA transfection (per well)			
					ScreenFect™ A /Dilution Buffer	Plate size	Surface area	Total volume SF-SiRNA complex
96 wells	0.3 cm <sup>2</sup>	-80 µL	16 µL	-75 ng /8 µL	0.2-0.4 µL /8 µL	96 wells	0.3 cm <sup>2</sup>	84 µL
24 wells	2 cm <sup>2</sup>	-350 µL	80 µL	-300 ng /40 µL	1-2 µL /40 µL	24 wells	2 cm <sup>2</sup>	420 µL
12 wells	4 cm <sup>2</sup>	-700 µL	140 µL	-600 ng /70 µL	2-4 µL /70 µL	12 wells	4 cm <sup>2</sup>	750 µL
6 wells	10 cm <sup>2</sup>	-1,250 µL	240 µL	-1,000 ng /120 µL	4-6 µL /120 µL	6 wells	10 cm <sup>2</sup>	1,260 µL

Please refer to the package insert how to use ScreenFect™ A. As for the protocol for optimization on cell species, please contact us.

## ■ ScreenFect™ A Applications



# TOGETHER

BAKER

RUSKINN

## WE CAN MAKE

### MORE THAN

### A DIFFERENCE

PHYSIOLOGICAL  
CELL CULTURE  
WORKSTATIONS

CULTURE AS  
NATURE INTENDED

**Invivo<sub>2</sub>**

## WE CAN MAKE HISTORY

Multiple models and a variety of options are available to fit your specific needs.

1



INVIVO<sub>2</sub> (I 400)

- 236L working volume
- 400 x 96 well plate capacity
- 26L interlock capacity

2



INVIVO<sub>2</sub> Large Interlock (I 500)

- 236L working volume
- 400 x 96 well plate capacity
- 41L interlock capacity

3



INVIVO<sub>2</sub> Dual Chamber (I 1000)

- Two independently controllable chambers, each 236L
- 800 x 96 well plate capacity
- 49L central interlock capacity with right and left hand opening

### STANDARD FEATURES & ACCESSORIES

- Internal Hepa filtration to Class 4 (ISO 14644-1); Grade A (2004/23/EU); Class 10 (FED STD 209E)
- Removable front (Pop off™, with one touch of a button)
- 236L usable chamber volume (Invivo2 400/500), 472L (236 x 2 in Invivo2 1000)
- Intelligent interlock (automatically sets O<sub>2</sub> level to the same level as in the main chamber)
- Ezee Sleeve™ ports for Direct Hand access
- Detox sachet (large)
- Internal power sockets x 3
- One narrow and one wide culture rack
- 24 month warranty (valid if year 1 service pack implemented)

#### Touchscreen Control:

- O<sub>2</sub> control (from 0.1% to 23.0% in 0.1% increments)
- CO<sub>2</sub> control (from 0.1% to 30.0% in 0.1% increments)
- Humidity control (using Aquasorb humidity beads)
- Temperature control (5 °C above ambient to 45.0° C in 0.1° C increments)
- Data log (one data set per minute, each set comprises: time, date, O<sub>2</sub> (set/actual), CO<sub>2</sub> (set/actual) humidity, temperature)
- Alarm settings
- Light control (on/off, dimming function)
- Removable front screen release

### OPTIONAL FEATURES & ACCESSORIES

- Ultrasonic humidity control (up to 85%)
- Remote monitoring/remote control hardware module
- Internal monitor for digital microscope
- Stand (choice of static, manual/electric adjustable)
- Vacuum port connector
- Gas sample port
- Cable gland
- Multi-cable gland (up to 6 individual cables)
- Single plate entry system (SPES™)
- Ezee Cuff™ (Gloveless/Sleeveless Hand Entry)
- External Hepa containment package with rubber gloves
- Cooling accessory
- Light protective cover
- Waste port
- Large interlock retrofit kit (41L size)
- RH meter
- O<sub>2</sub> meter (Greisinger 3692)
- Culture rack (wide or narrow)
- Culture rack (light protective)
- Internal shelf (wide or narrow)
- Billups modular Incubator chamber
- Anoxic mode option (with catalyst sachet large)
- Hyperoxia module (0% to 100% O<sub>2</sub>)
- Steam humidity
- Aquasorb humidity bead packs
- USB port (Power only)

		InvivO <sub>2</sub> (I 400)		InvivO <sub>2</sub> Large Interlock (I 500)		InvivO <sub>2</sub> Dual Chamber (I 1000)	
		mm	inches	mm	inches	mm	inches
Workstation external dimensions	Width	1252	49.3	1392	54.8	2404	94.6
	Height	1025	40.4	1025	40.4	1025	40.4
	Depth	797	31.4	797	31.4	797	31.4
Workstation external dimensions (on stand)	Width	1296	51.0	1402	55.2	2414	95.0
	Height (lowest/highest stand setting)	1682/1982	66.1/76.4	1682/1982	66.1/76.4	1682/1982	66.1/76.4
	Depth	797	31.4	797	31.4	797	31.4
Workstation internal dimensions	Width	761	30.0	761	30.0	761 (per chamber)	30.0 (per chamber)
	Height	535	21.1	535	21.1	535 (per chamber)	21.1 (per chamber)
	Depth	580	22.8	580	22.8	580 (per chamber)	22.8 (per chamber)
Workstation capacity 96 well plates	Number of plates (128 x 86 x 17mm*)	399		399		798	
Workstation capacity T 75 flasks	Number of flasks (150 x 80 x 36mm*)	155		155		310	
Workstation weight	kgs/lbs	100/220		120/264		210/462	

Interlock dimensions	Width	176	6.9	316	12.4	316	12.4
	Height	299	11.8	299	11.8	299	11.8
	Depth	366	14.4	366	14.4	366	14.4
Interlock capacity volume	Accessible litres	26		41		49	
Interlock capacity 96 well plates	Number of plates (128 x 86 x 17mm*)	42		70		98	
Interlock capacity T 75 flasks	Number of flasks (150 x 80 x 36mm*)	21		28		42	
Interlock purge times. User can choose O <sub>2</sub> % value between 0% & 10%	to 5% O <sub>2</sub> (seconds)	19		19		25	
	to 1% O <sub>2</sub> (seconds)	45		45		55	
	to 0% O <sub>2</sub> (seconds)	60		60		85	

Maximum Internal Dimensions shown. Please contact your local sales representative for further information.  
\* Dimensions are given in length x width x height

Baker Ruskinn is a global leader and supplier of anaerobic and precision low oxygen culture systems for microbiology and tissue/cell culture applications.

Its advanced line of anaerobic chambers, physiological cell culture workstations and media conditioning solutions help improve research results by providing precisely controlled conditions for anoxic and low-oxygen studies.

To learn how Baker Ruskinn products can benefit your research, visit: [www.bakerruskinn.com](http://www.bakerruskinn.com).

Get in touch today to hear how we can work with you.

8 & 9 York Park,  
Bridgend Industrial Estate,  
Bridgend,  
CF31 3TB,  
United Kingdom  
Tel: +44 (0) 1656 645988  
Fax: +44 (0) 1656 667966  
[www.bakerruskinn.com](http://www.bakerruskinn.com)  
[sales@ruskinn.com](mailto:sales@ruskinn.com)



IGZ Instruments AG  
Furtbachstrasse 17  
8107 Buchs ZH

Tel. +41 44 456 33 33  
igz.ch igz@igz.ch



RUSKINN