

Highlight Products

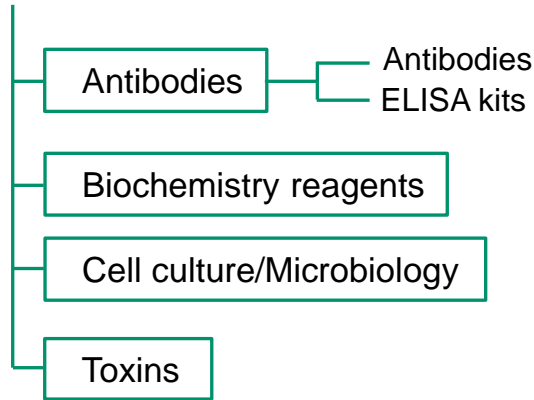
FUJIFILM Wako Chemicals Europe GmbH

April 2021

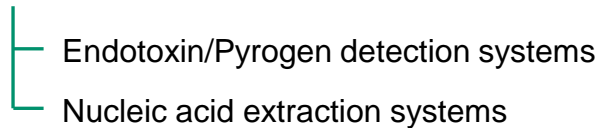




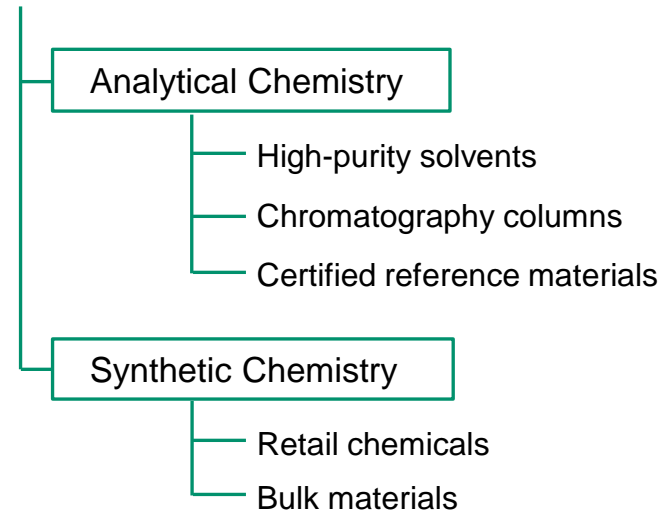
Life Science



Quality Control



Chemistry



🔍 Antibodies and ELISA Kits

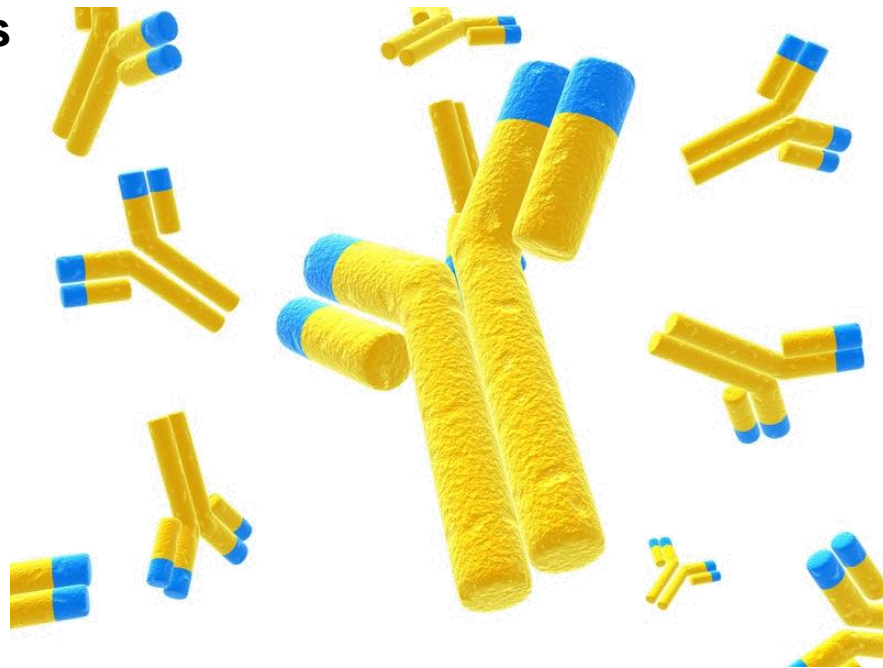
Neuroscience Research

Cancer Research

Metabolic Sciences

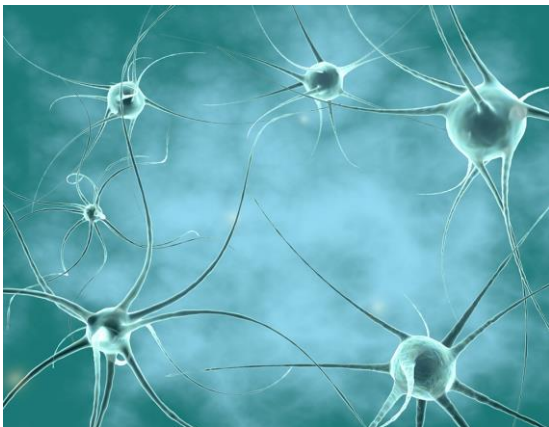
miRNA Research

Biotechnology
& Bioengineering



More than 400 different products with numerous unique items

Neuroscience research

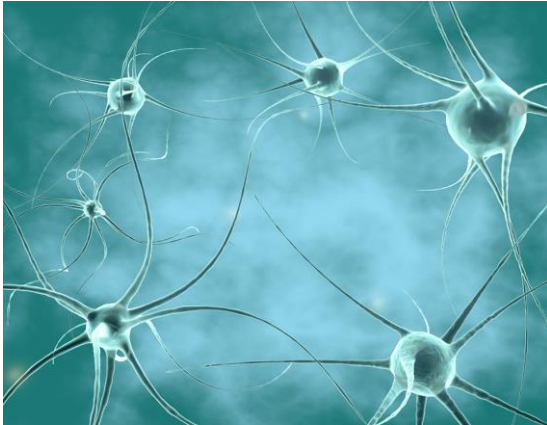


Target/Epitope	Application field
A β (Amyloid β)	Alzheimer Disease
Amyloid β oligomer	
Tau	
A β precursor protein	
Apolipoprotein E4	
α synuclein	Parkinson Disease
BDNF	Mental Disease
Iba1	Glia and Neuronal Markers
GFAP	
Nestin	
Pax 6	
Phopholated GAP-43	
Synaptophysin	

Main products

› More than 70 items with numerous unique products

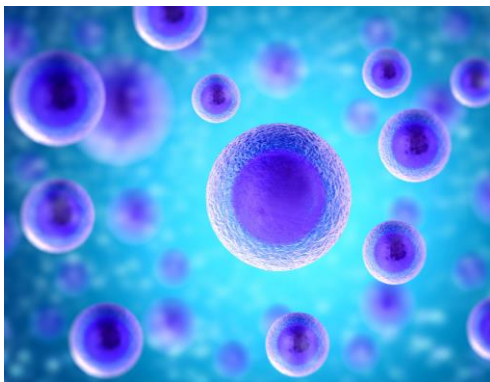
Neuroscience research



Factor	Application field
A β (Amyloid β) 40 A β (Amyloid β) 42 New Amyloid β oligomer Tau New Tau pT181	Alzheimer's disease
New BDNF	Mental disease

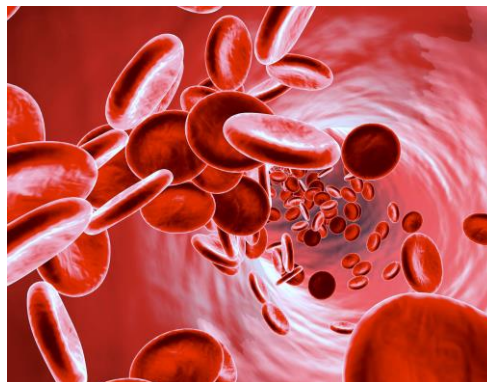
- › Measure level of factor in biological sample
- › High Sensitivity
- › Small Sample Volume

Cancer research



Target	Application field
ATRX IDH 1 IDH 2	Glioma
HB-EGF TERT	General Markers
Podocalyxin Podoplanin	Cancer metastasis

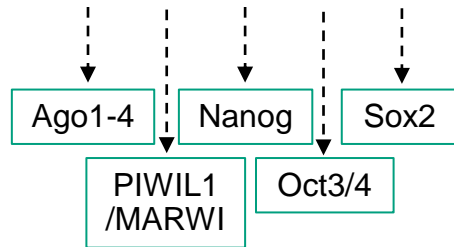
Metabolic Sciences



Target	Application field
CTGF	Rheumatoid arthritis
FGF9	Embryo- & Morphogenesis
Fibrin	Blood Coagulation
Galectin-9	Immune Malfunction
Mortalin	Cell Proliferation

- › More than 20 different products
- › Several unique antibodies
- › Target users: CROs/CMOs

miRNA Research



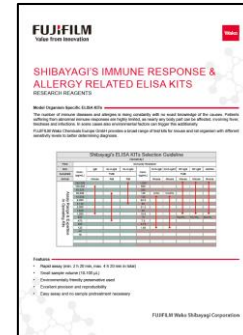
- › More than 30 different products (AB's & isolation kit)
- › Covering most of major target proteins
- › Several unique products
- › Target users: CROs/CMOs

Shibayagi™ Kits

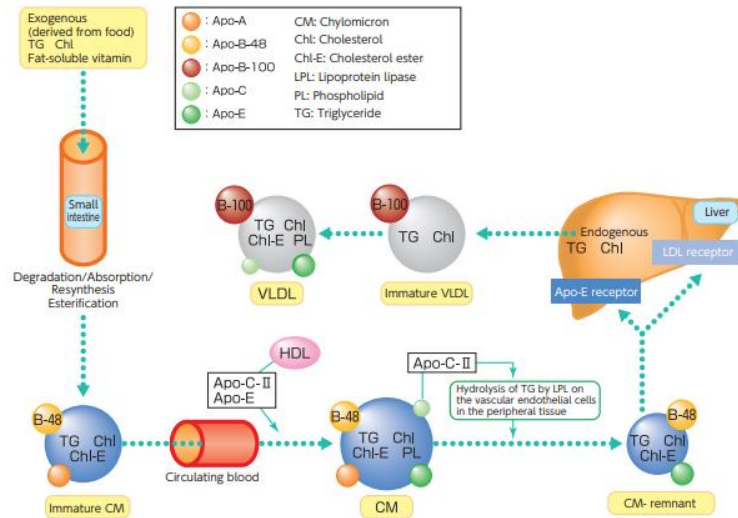
Application Field	Assay system	Kits
Clinical lipid-related research	ELISA	1
Non-clinical diabetes & obesity research	ELISA	14
Non-clinical allergy & immunity research	ELISA	9
Non-clinical nephrotoxicity	ELISA	2
	TIA	2
BSA (Bovine serum albumin)	ELISA	1

main sales driver

- Unique ELISA kits available for most model-organisms
- Target users: Pharma industry, CROs/CMOs

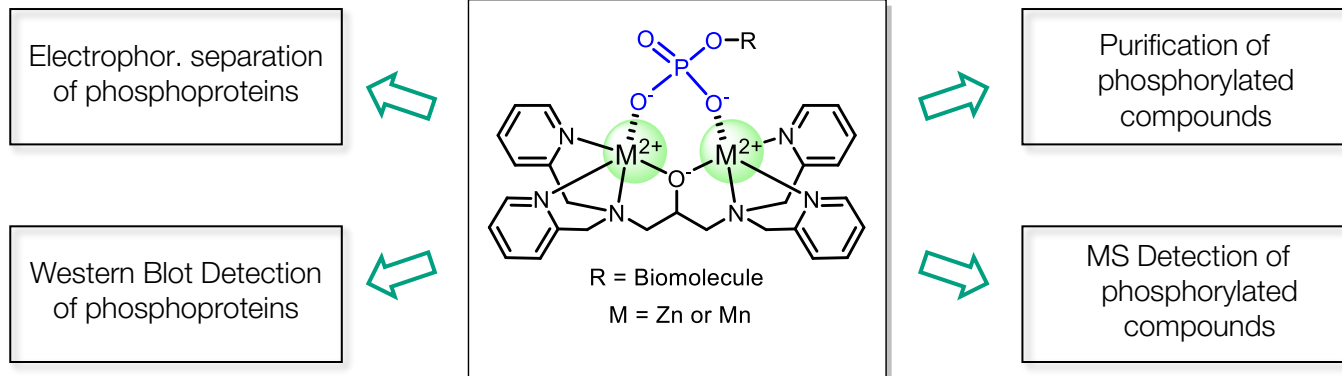


Apolipoprotein B-48 ELISA Kit



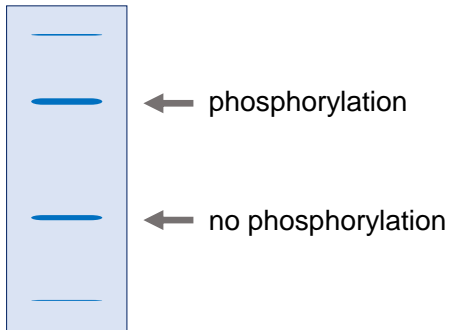
- › Apolipoprotein B-48
- › best marker for observation of exogenous and endogenous lipid transportation after food intake
- › evaluation of risks for developing atherosclerotic diseases

The Phos-tag™ Series



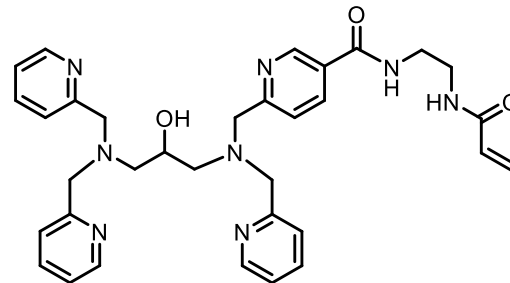
- › Specific antibody-free trapping of Phosphate group
- › No radioactive detection required
- › Fluorescence labelled Phos-tag™ available
- › Patented technology: Exclusive by FUJIFILM Wako

SuperSep™ Phos-tag



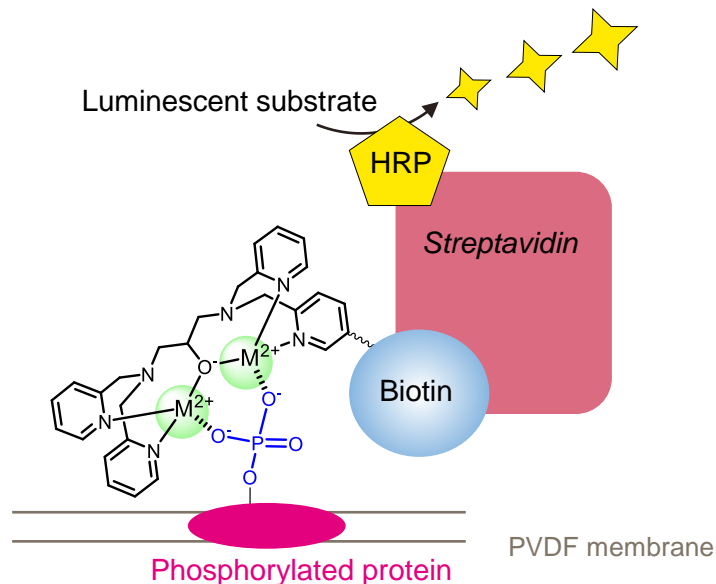
- › Ready-to-use precast polyacrylamide gels
- › Compatibility with Bio-Rad™ and Life Technologies™ tanks
- › Long-term stability (> 9 months)

Phos-tag™ AAL-107



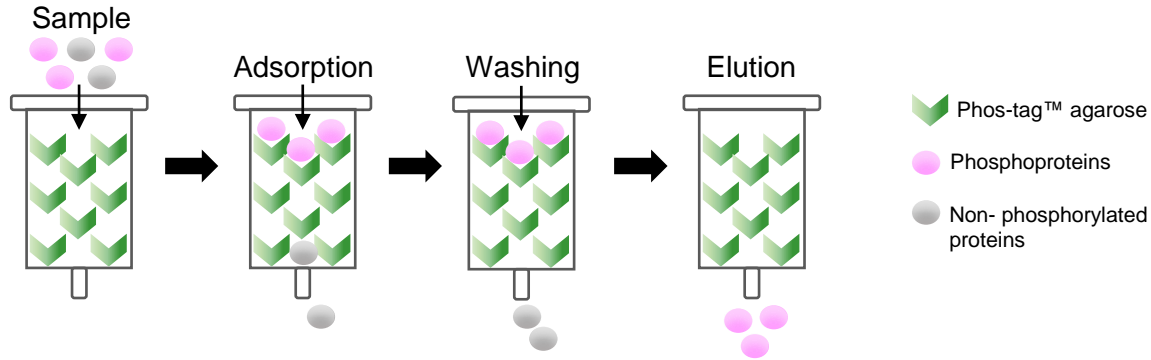
- › High flexibility
- › > Easy to use
- › > Product doesn't exhibit any toxicity
- › > Long-term stability (> 1 year)

Phos-tag™ Biotin



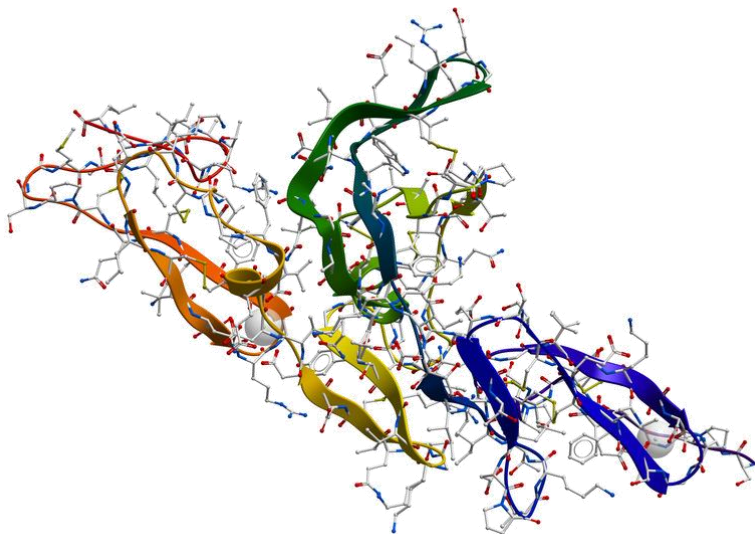
- › Suitable for Western Blot
- › No special reagent required
- › Sensitivity: < 1ng
- › Long-term stability (> 1 year)

Phos-tag™ Agarose



- › Phosphorylated proteins can be purified within 1h
- › Elution under physiological conditions (pH 7.5)
- › No reducing agents or surfactant required

Lysyl Endopeptidase®



- › Specific carboxyterminal cleavage of Lys-residues
- › Isolated from native strain *A. lyticus* M497-1
- › Activity: 8 – 12 AU/mL
- › Target users: Biopharma industry, proteomic platforms
- › Recommended by European Medicines Agency (EMeA)

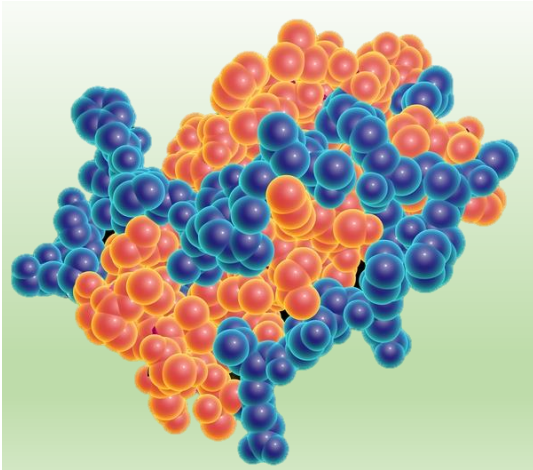
New launched: Lysyl Endopeptidase® RECOMBINANT, BIOPHARMACEUTICAL ANALYSIS GRADE (rLys-C)

- Expressed in *E. coli*
- Checked residual DNA / Host cell protein
- Missed cleavage rate is lower than competitor's Lys-C

FOC samples available !!!

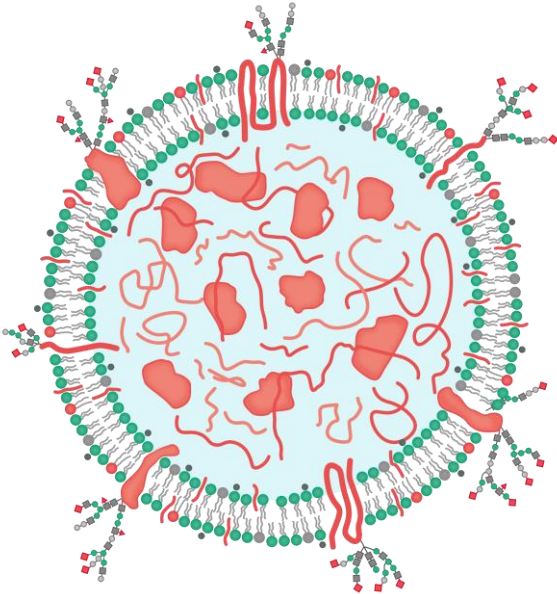


Achromopeptidase®



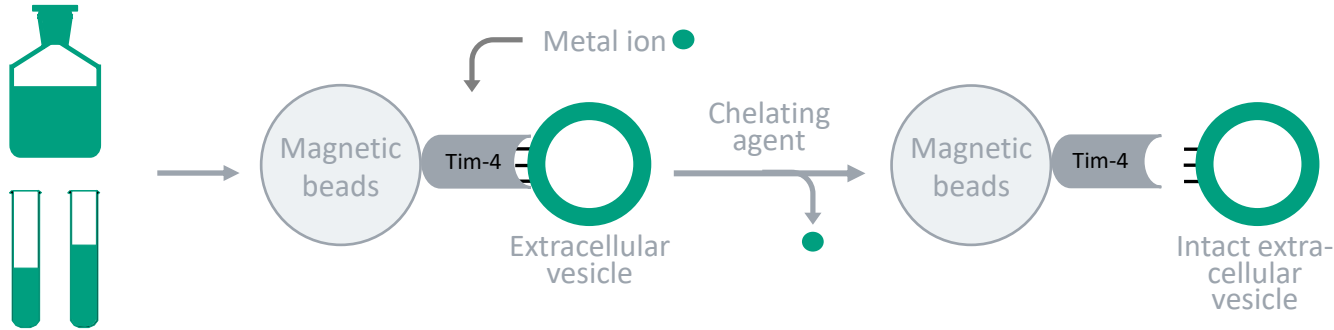
- › Highly active bacteriolytic enzyme
- › Isolated from the soil bacterium
Lysobacter enzymogenes M497-1
- › Broad specificity against Gram-positive bacteria
- › Suitable for preparation of protoplasts from actinomycetes
- › Target users: Protein production platforms

EV (extracellular vesicles) Isolation/ELISA Kits/Flow Cytometry Kit



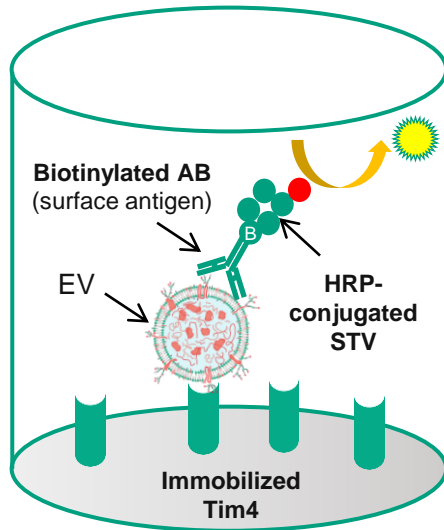
- › EVs can be found in nearly all body fluids (e.g. blood, urine, saliva, amniotic fluid, etc.)
- › Highly increased levels of EVs in cancer patients
- › Implication in tumor genesis and growth, metastasis & immune escape
- › Genetic content of EVs reflects “advanced state” of cancer
- › High potential as “theragnostic”

MagCapture™ Exosome Isolation Kit PS



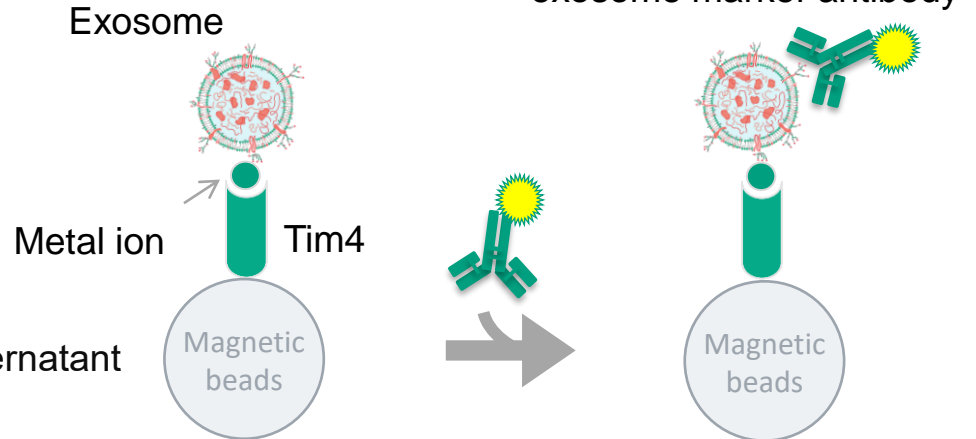
- › Affinity-based antibody-free purification method
- › Unique patented technology enabling easy elution of bound EVs under neutral conditions
- › Target users: (Bio)pharma- and Medtech industry, public research institutes

PS Capture™ Exosome ELISA Kit (Streptavidin HRP)



- › Detection of EVs in 0.1 μ L of cell culture supernatant
- › Quantitative analysis with up to 1.000x higher sensitivity than Western Blot
- › Target users: (Bio)pharma- and Medtech industry, public research institutes
- › 2nd assay with HRP- labeled anti-mouse sec AB available

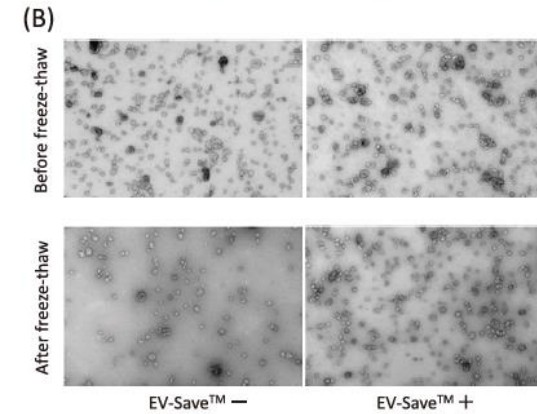
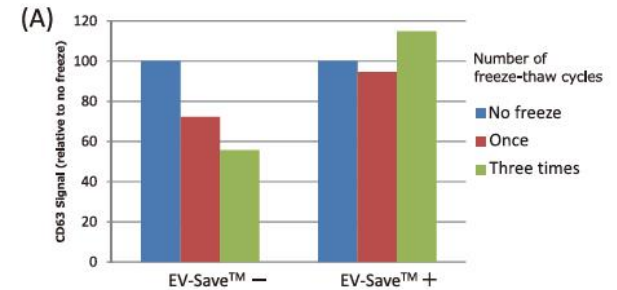
PS Capture™ Exosome Flow Cytometry Kit



- › Detection of EVs in 0.1 µl of cell culture supernatant
- › High sensitive qualitative analysis
- › Easy operation
- › No need of purification
- › Target users: (Bio)pharma- and Medtech industry, public research institutes

EV-Save™ Extracellular Vesicle Blocking Reagent

- › polymeric reagent suppressing the adsorption of extracellular vesicles to laboratory instruments/containers
- › reduces the loss of extracellular vesicles during experiments and storage
- › combination with MagCapture™ Exosome Isolation Kit PS



Uniwells™

Conventional co-culture plate



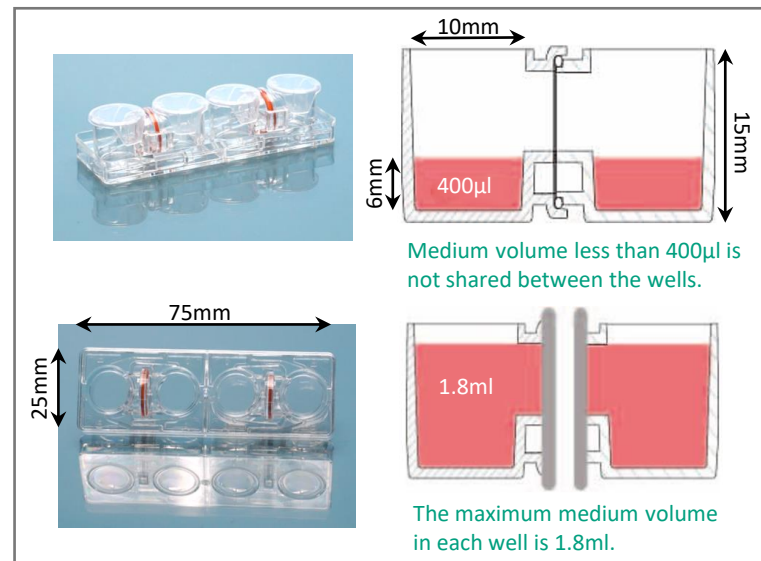
The filter is clogged by cells cultured in the upper well, which leads to interfere with migration of cell secreted factors between the upper and lower well.

Uniwells™



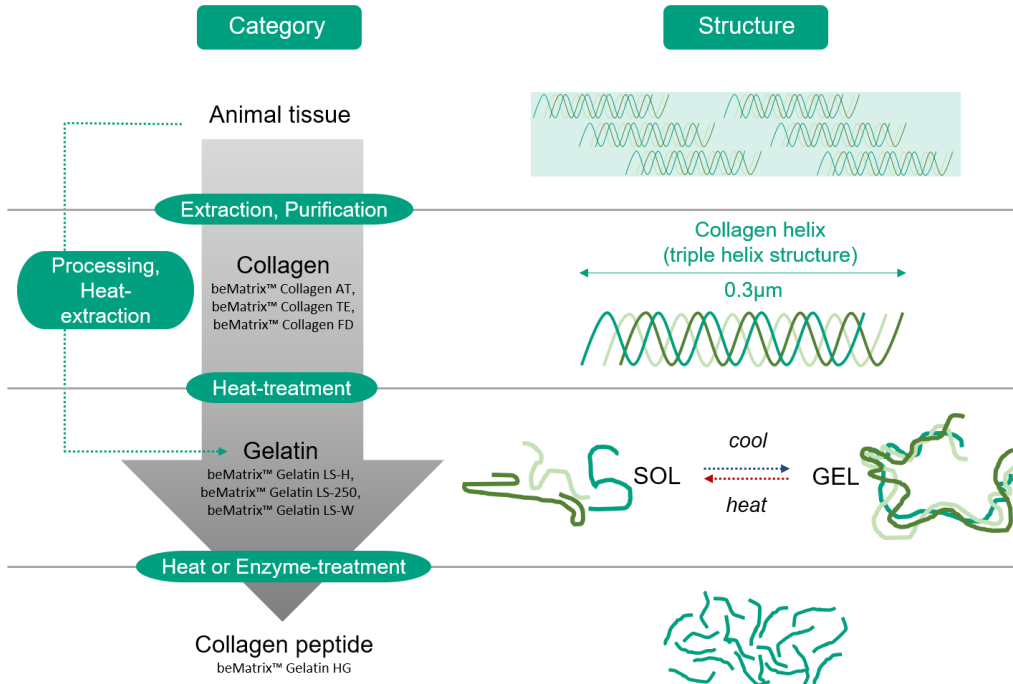
The filter is NOT clogged by cells.

- › co-culture platform that connects two wells laterally
- › Simultaneous observation using a time-lapse microscope
- › No more filter clogging
- › Culturing cells in two wells under the same medium volume and condition



NittaGelatin - beMatrix™ series

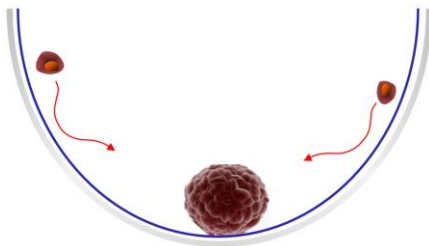
Drug delivery system & Biological adhesive / haemostatic material



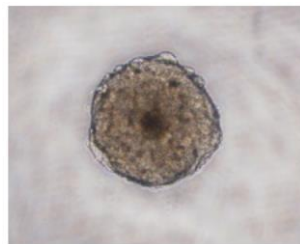
- Low endotoxin levels and improved purity are ensured to minimize pyrogenic reactions in the body
- Excellent biocompatibility and biodegradability
- Registered in the FDA device Master plan
- Production: ISO9001, IPEC, GMP, Cleanroom

Sumitomo PrimeSurface™

- › An innovative technology for 3D cell culturing for reliable anticancer drug screening and regenerative medicine
- › Multiple formats available, including the 384 well format, which promotes high throughput screens (HTS)
- › The application of a hydrophilic, biocompatible polymer prevents cell adhesion at the side walls of the well



Single spheroid can be formed in each well



Spheroid formation can be observed easily

Well bottom shapes of 96 well microplates

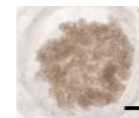
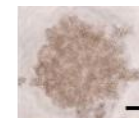
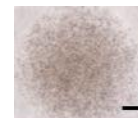
U-shape

Z-shape

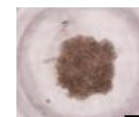
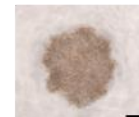
V-shape



MDA-MB-453



MDA-MB-468



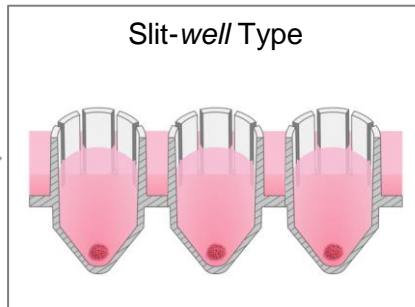
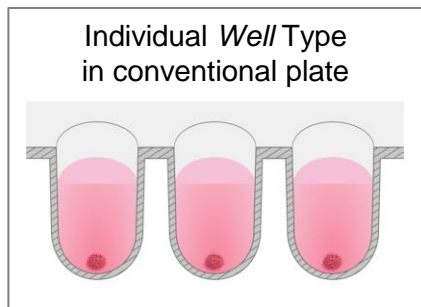
Seeding Density: 2×10^3 cells/well
Culture Medium: RPMI + 10% FBS
Incubation: 37°C, 5% CO₂, Culture
Period: 7 Days
Scale bar: 200 μm
MDA-MB-453, MDA-MB-468: human breast cancer

Data are provided by Nishio Lab.,
Dept. Of Genome Bio. Kinki Univ. Faculty of Medicine

Sumitomo Slitwell™

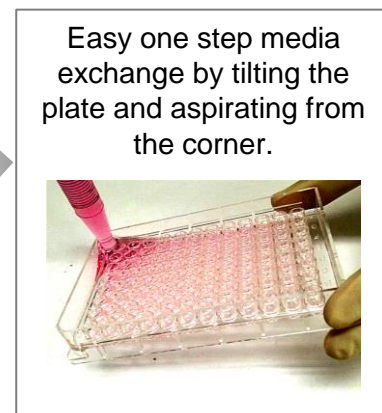
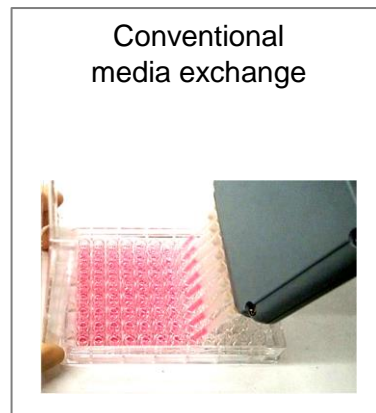
- › new design of ultra-low attachment 3D plate to facilitate easy handling of media exchange without disturbing spheroid formation

Slit-well structure for simultaneous delivery of Cell culture medium to all 96 wells



- › decreasing the pipetting time by over 80% while minimizing the risk of spheroid damage

Minimize media exchange time without disturbing spheroid formation



Cell Culture Medium for Vaccine development - WakoVAC MDCK

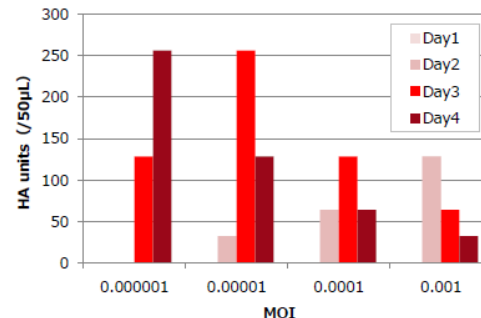
- Animal component-free
- Multiple prototypes are available for testing
- The latest prototype shows an improved virus yield approximately 1.5 times higher than from our competitors
- Designed and optimized for small- and large-scale vaccine production
- Compatible with microcarrier
- Adaptation not typically required

Equal to or higher yields of influenza virus than commercially available serum-containing option

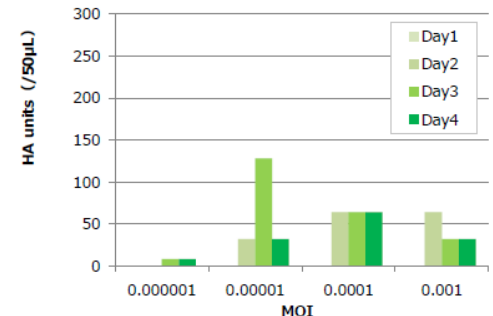
Influenza A virus (H1N1)

- Static
- T flask
- 37°C, 5% CO₂
- Number of viral inoculated cells:
 - Wako: 25.8x10⁴cells/cm²
 - Medium A: 21.2x10⁴cells/cm²

WakoVAC MDCK
Serum-free Medium, Prototype

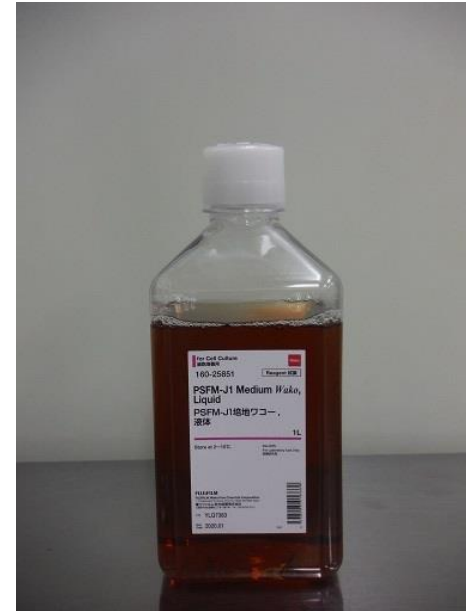


Competitor A

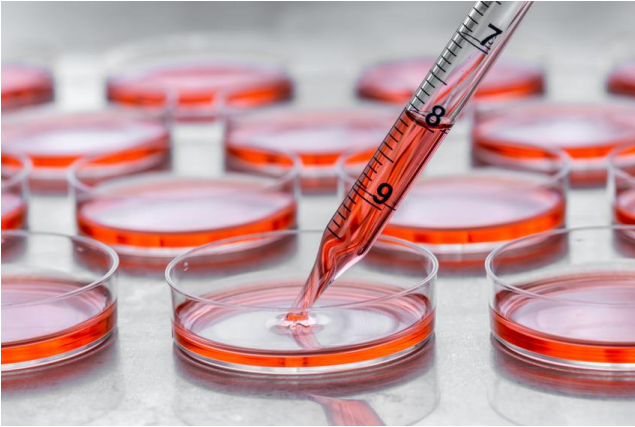


Cell Culture Medium for Vaccine development - PSFM-J1

- › Supports wide range of insect cells (Sf9, Sf21, Tn-5)
- › Yeast-derived hydrolysate contained
- › CoA for Non-GMP and GMP available, Cell growth, cell viability, and protein expression data can be included on CoA upon request
- › Wako provides regulatory support to ensure the compliance required by each country's pharmaceutical authority
- › This platform has been used for the industrial purposes for a long time in worldwide.
- › Customization for powder form possible



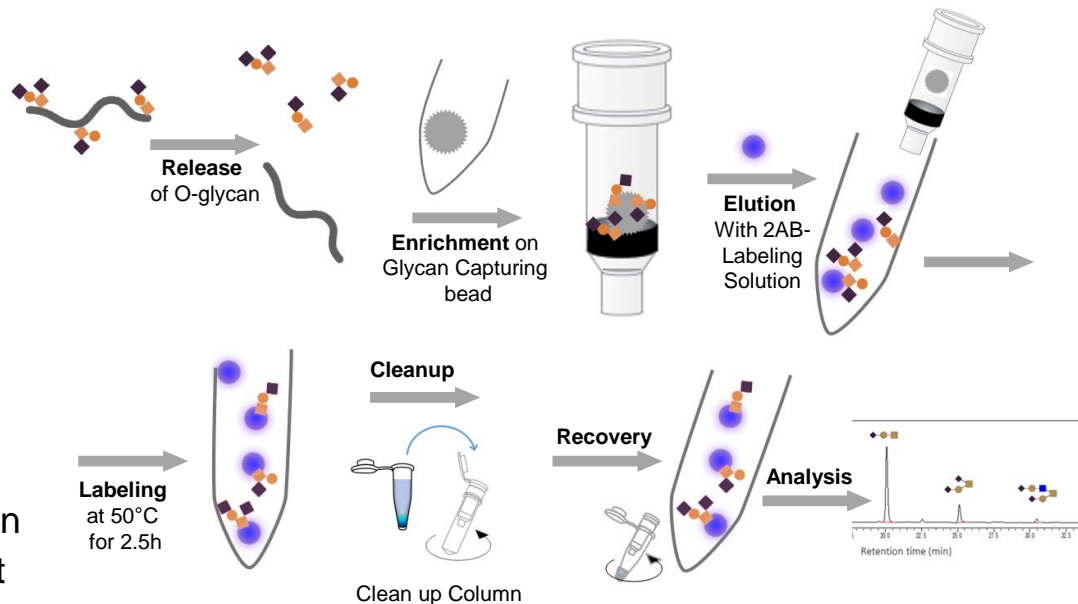
Bambanker™



- › Serum-free medium for long-term freezing at -80°C
- › Suitable for cryopreservation of most cell lines
- › Ready to use (no diluent required)
- › Target users: Pharma- and Biopharma-industry

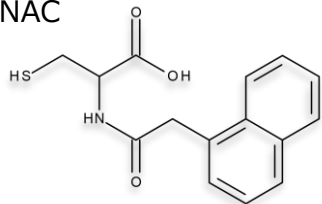
Sumitomo EZGlyco™

- › O-glycan Sample Prep in 5 hours
- › High recovery of released O-glycans from various glycoproteins
- › Glycan releasing reagents minimize decomposition of O-glycans (peeling), resulting in O-glycan characterization with higher accuracy
- › With a simple protocol to follow, O-glycan sample preparation is completed without any special laboratory equipment

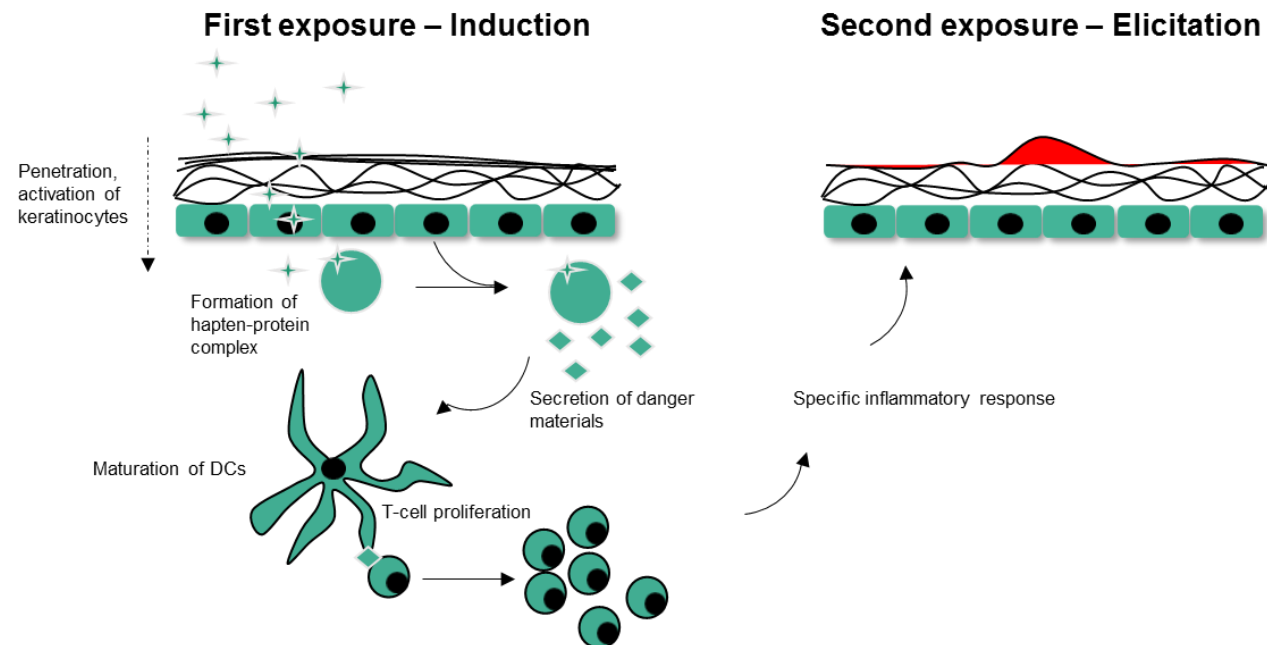
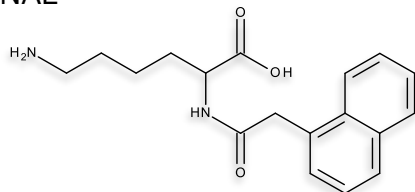


- Innovative alternative method for skin sensitization test
- Kit composed of two amino acid derivatives N-(2-(1-naphthyl)acetyl)-L-cysteine (**NAC**) and α -N-(2-(1-naphthyl)acetyl)-L-lysine (**NAL**) highly reactive against skin irritating compounds, which can be evaluated by HPLC.

NAC

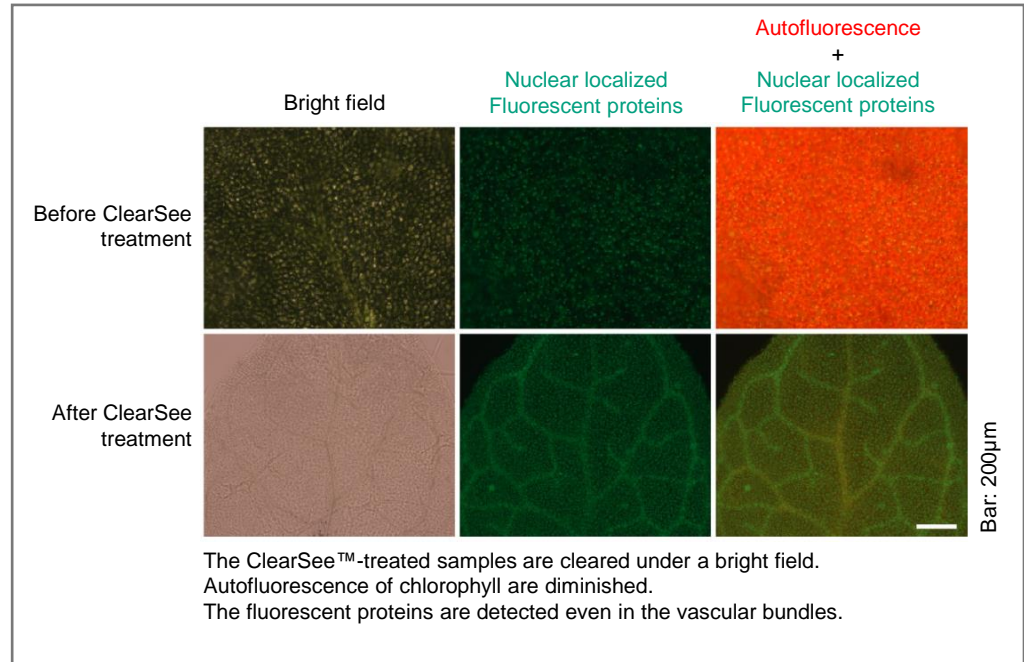


NAL



Tissue Clearing Agents - ClearSee™

- › Procedures are only 3 steps
- › Every fluorescence microscopes can be used
- › ClearSee™-treated samples can be stored for long term (at least 6 months)
- › The ClearSee™-treated samples can be observed for many times



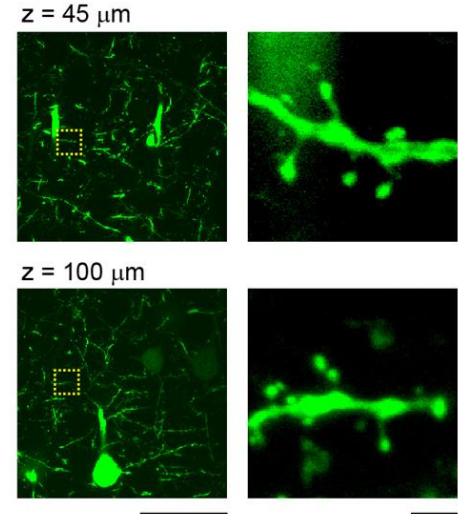
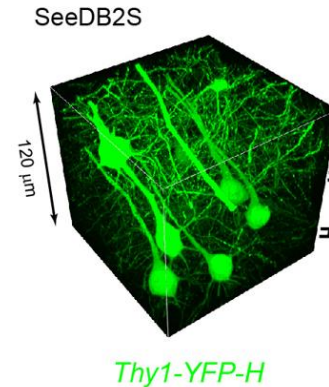
Tissue Clearing Agents – SeeDB2

- › SeeDB2 can conserve fine structures
 - › Suitable for deep observation (ex. synaptic studies)
 - › Stable fluorescence*
- * fluorescent dyes (ex. Alexa, DAPI)

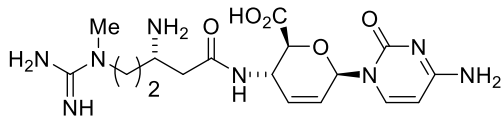


(↑) Mouse brain slice (adult, 1.5mm-thick) before and after clearing with SeeDB2.

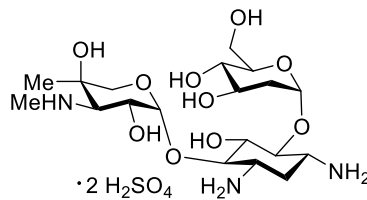
(→) Confocal images of brain slices from a Thy1-YFP (line H) mouse. An oil-immersion objective lens (NA 1.4) was used. Note that fluorescence level did not decrease even though laser power was constant throughout depth. Scale bars are 2 μm .



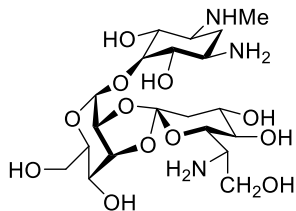
Unique small molecules



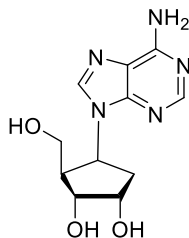
Blastidicin S



G-418 (Geneticin) Sulfate

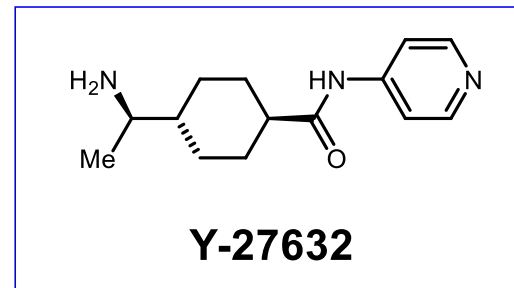


Hygromycin B



Aristeromycin

- Broad collection of unique inhibitors and antibiotics suitable for selection of transfected cells



- Highly potent, cell-permeable inhibitor of Rho-associated *coiled-coil* protein kinase
- Enhances the survival of ES-cells
- GMP grade available in 2021

- › All CertiPro series products are manufactured under Japanese GMP, and meet the specifications defined in the latest version of JP, USP and Ph. Eur., among other pharmacopeias.
- Endotoxin test
- Various report (e.g.: Residual Solvents, Elemental Impurities, etc)
- Customizing the Specification for **USP/EP and Bioburden** depends on the requests
- Supporting program for **Method Validation (MV*) for “Non-Compendial” Chemicals**

*Method validation (MV) is the in-house process of analysis methods which complied to GMP guidelines as a reference, because of no existing guideline set by the authorities, such as “Non-Compendial” Chemicals.

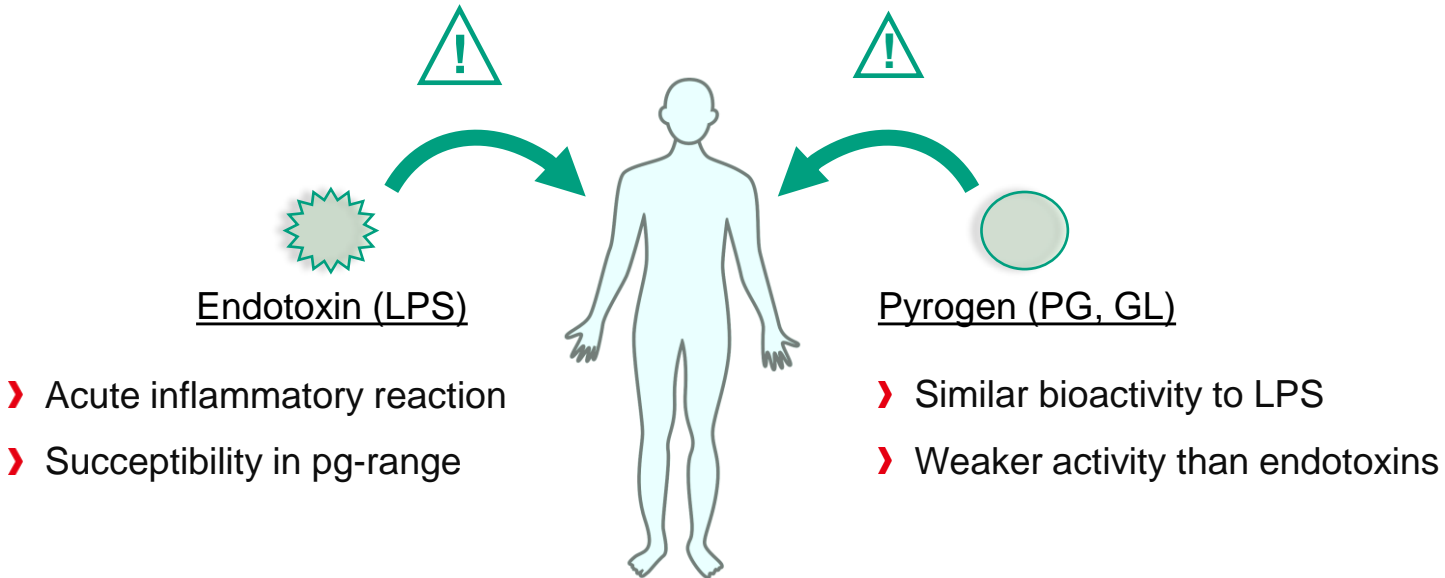
› WFI Quality Water

- Water for Injection (WFI)* Quality Water is the most suitable water available for producing cell culture media, reconstitution of biochemical reagents, and for critical applications
- WFI Quality Water meets USP, PhEur, and JP grade specifications and is 0.1µm sterile filtered at time of fill
- contains no added substances

› WFI System Performance

Parameter	Specification
Bioburden	10 cfu/100mL
Endotoxin	≤ 0.25 EU/mL
TOC	< 500 ppb
Conductivity	≤ 2.1 µS/cm

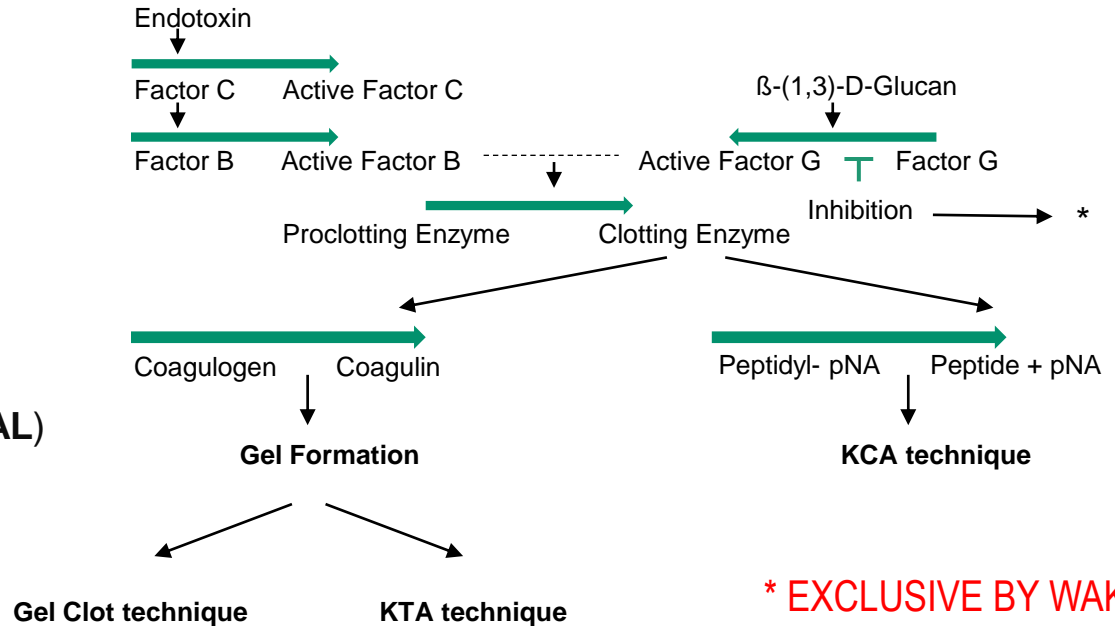
Endotoxin and Pyrogen Detection



Bacterial Endotoxin Test



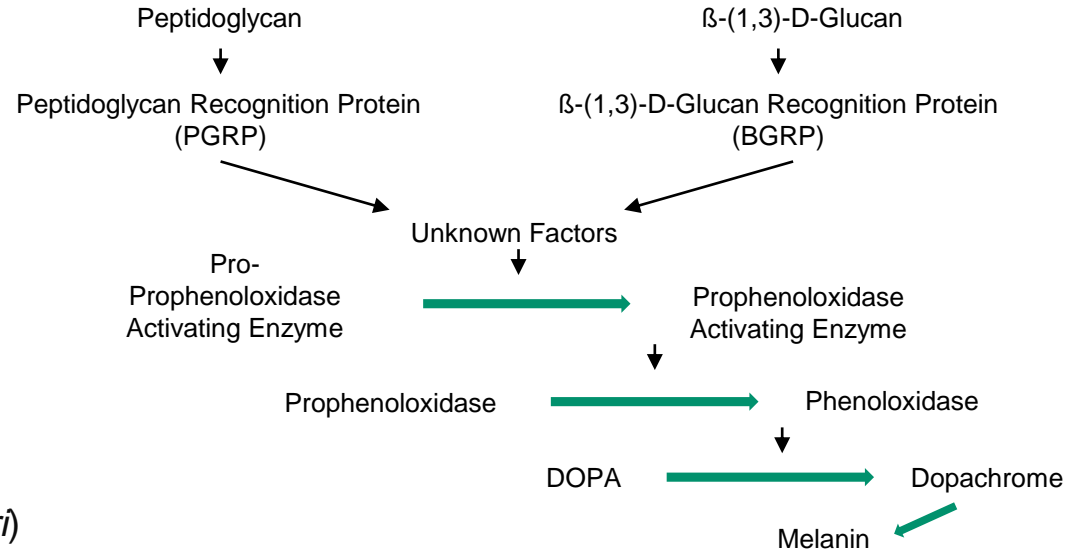
- > Limulus Amebocyte Lysate (LAL)
- > Prepared from horseshoe crab



*** EXCLUSIVE BY WAKO
ENDOTOXIN SPECIFIC**

Source: www.dnaindia.com

Bacterial Pyrogen Test

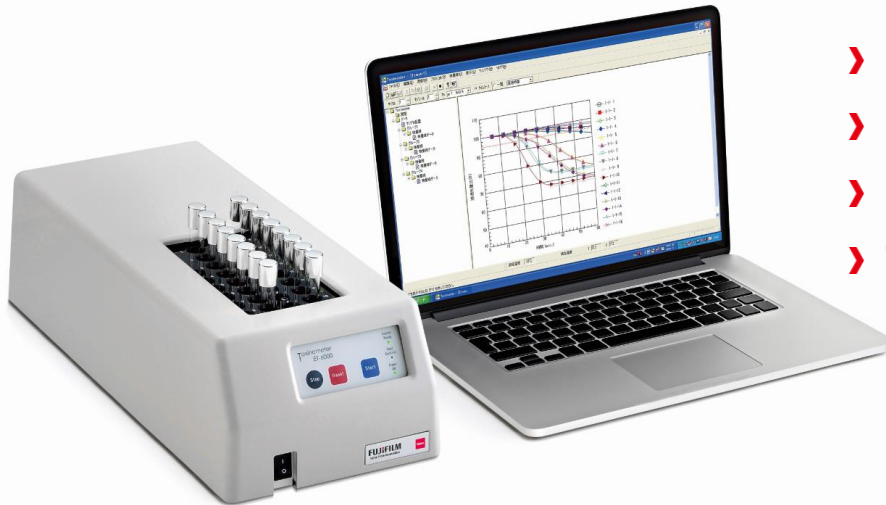


- › **S**ilkworm **L**arvae **P**lasma (**SLP**)
- › Prepared from silkworm (*Bombyx mori*)
- › Specific detection via colorimetric assay

EXCLUSIVE TO WAKO



Toxinometer Series



- › Enables computer-operated quantitative analysis
- › Compatible with LAL and SLP Reagent
- › Compliance with the FDA 21 CFR Part11
- › Target users: (Bio)pharma- and Medtech industry

For more information visit our website
http://www.wako-chem.co.jp/lal/en/lal_system/lal_business.html

QuickGene Series

- › Patented porous membrane for high-purity isolation
- › Easy and simple operation (within 25 to 60 minutes)
- › Semi and fully automated processes
- › DNA isolation from varying volume and diverse samples origins

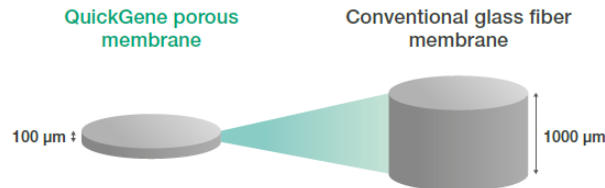
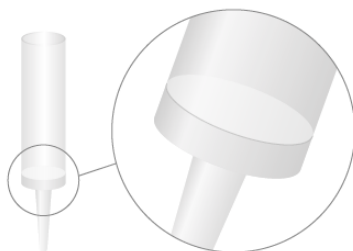
+ QuickGene-Mini480



+ QuickGene-Mini8L

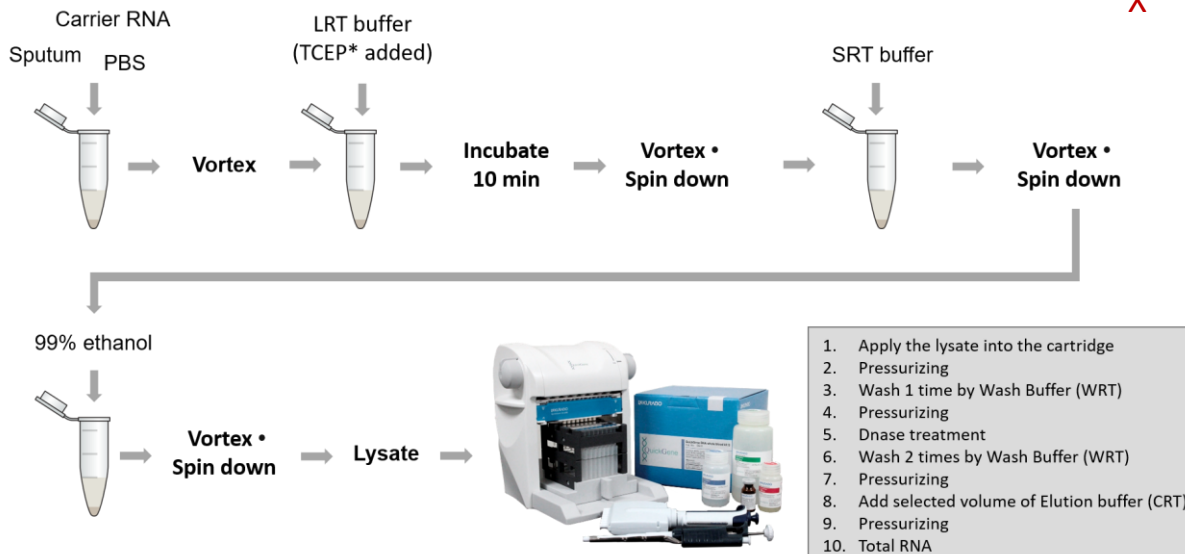


+ QuickGene Auto12S & 24S



QuickGene Series 2019-nCoV RNA Extraction Product Solution

Virus RNA Extraction from sputum



- ✓ Usable with multichannel pipette
- ✗ Requires no centrifugation

- › Small and light weight compact benchtop device
- › Processing 1 to 48 samples at the same time
- › Easy isolation from various samples
- › Easy to use under clean bench

DNA Extractor Kit®



- › Highly efficient extraction of DNA fragments in serum and biological products
- › No use of hazardous chemicals (phenol/chloroform-free)
- › Entire extraction is performed in a single tube (minimum contamination)
- › Target users: (Bio)pharma industry, in particular for manufacture of vaccines

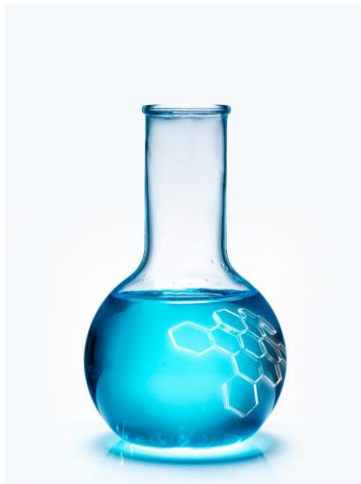
Toxins at FUJIFILM Wako



- › Broad collection of toxic and poisonous compounds
- › Unique natural compounds endemic in Japan
- › Available in retail and bulk quantities

➡ Some of listed materials are subject to export control!

Chemicals Portfolio



- › Extensive product range comprising a large range of different molecules
- › Offered in different purity grades including JP, EP and USP
- › Available in retail and bulk quantities
- › Customized and on-demand synthesis

Wakopak® HPLC-Columns



- › More than 100 different items
- › Suitable for most HPLC-systems and separation methods
- › Available for analytical and preparative applications
- › Recommended use for SHIMADZU systems

High-Purity Solvents



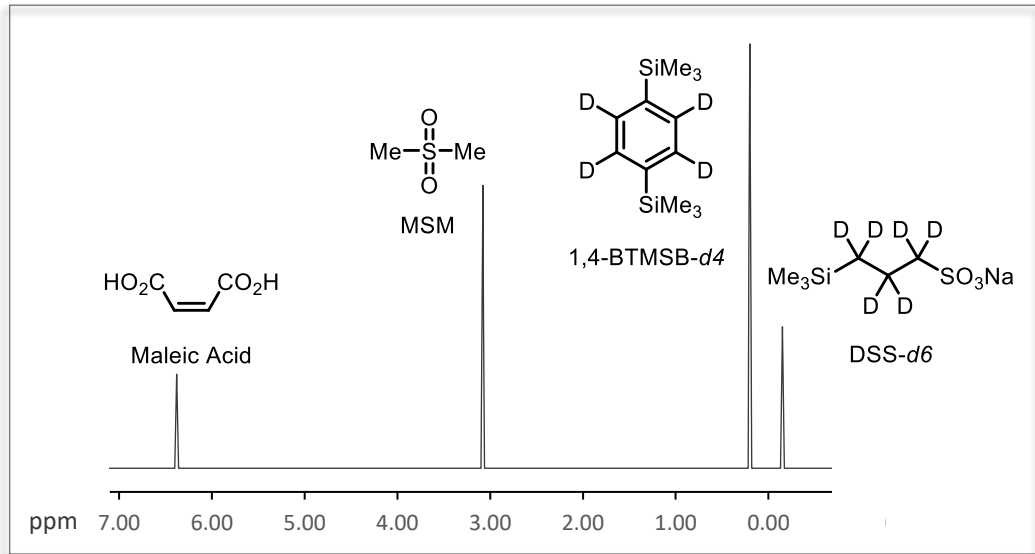
- › Broad portfolio comprising more than 50 items suitable for HPLC, LC/MS, QTofMS and NMR
- › Special surface coating of recipient-inner wall avoiding ion-contamination
- › Highest purity grade applicable for use as drug-adjuvant
- › Available in retail and bulk quantities

Certified Reference Material (CRM)



- › Large variety of compounds, including antibiotics, pesticides and toxins
- › Certified by qNMR by National Meteorology Institute of Japan (NMIJ)
- › Available in retail and bulk quantities

Quantitative NMR Standards



- › Certified by NMIJ as internal standard for qNMR
- › Traceable to the International System (SI)
- › BTMSB-*d*4 available exclusively at FUJIFILM Wako

FUJIFILM

Value from Innovation