

cellnest recombinant peptide based on human collagen type I

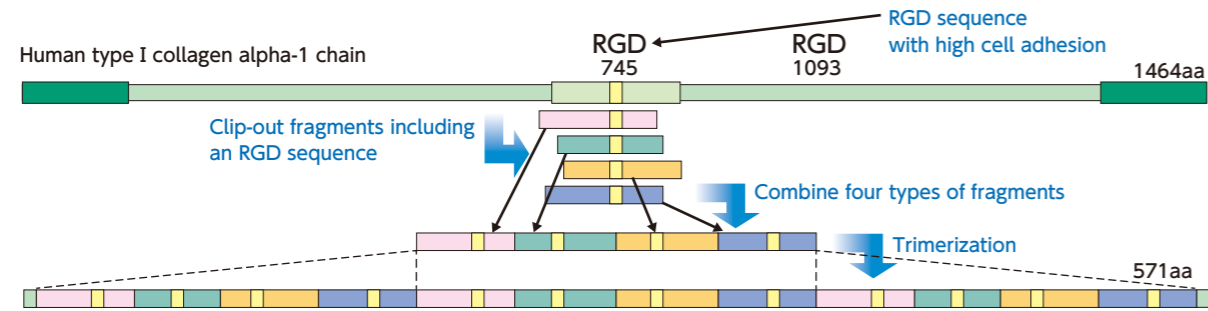
High safety and bioacmpmpatibility

High cellular adhesiveness

Stable manufacturing quality

High flexible formulation

- ✓ No animal-derived ingredients (xeno-free product)
- ✓ The biodegradable and bioabsorbable material which will not remain within the body
- ✓ RGD enriched with high cellular adhesion
- ✓ cellnest is manufacturing with recombinant technology from yeast with high reproducible quality
- ✓ For formulation into various forms, such as sponges, porous particles and granules



<< Actual cells tested >>

endothelial cells (HUVEC), keratinocytes (NHEK), myoblasts (C2C12), osteoblast-like (MC3T3E1), fibroblasts (3T3-L1), epithelial cell-like (CHO-K1, Vero, MDCK) and kidney cells(CV-1)

Product Name	Package Size	Wako Cat. No.
cellnest recombinant peptide based on human collagen type I, 0.1% solution	20mL	635-30081
cellnest recombinant peptide based on human collagen type I, lyophilized	100mg	638-30071



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. / 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.

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 ffwk-cservice@fujifilm.com Online Catalog: www.e-reagent.com

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FUJIFILM
 Value from Innovation

Wako

ES·iPS Cell Culture Reagents for Regenerative Medicine



Product Map for ES · iPS Cell Culture Reagents

Feeder-Free Medium

StemSure hPSC Medium Δ
 Animal-Free , Albumin-Free

Cytokines

Fibroblast Growth Factor (basic)
 Activin A Solution

Low Molecular Compounds

CultureSure Y-27632 ➔ Details at P.4 -5
 CultureSure CHIR99021, etc.

Freezing Medium

StemSure Freezing Medium
 CultureSure Y-27632

On-Feeder Medium

StemSure on-feeder hPSC Medium

Serum Replacement

StemSure Serum Replacement
 for mouse ES cell and human iPS cell

Cell Dispersion

Trypsin-EDTA Solution

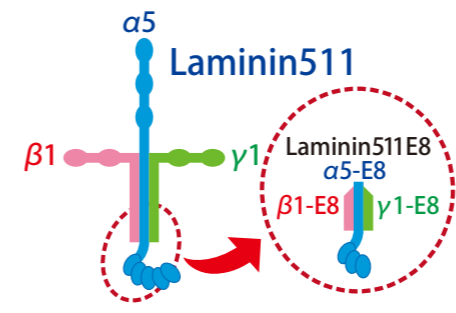
Laminin 511 is a laminin trimer with the chain composition $\alpha 5$, $\beta 1$ and $\gamma 1$. Laminin 511-E8 fragment has the same $\alpha 6\beta 1$ integrin binding capacity as the full length Laminin 511.

Extracellular Matrices

Vitronectin, Cellmatrix, etc.
iMatrix-511 [Matrixome Inc.]

- ◆ Recombinant laminin-511 E8 fragment
- ◆ Xeno-free
- ◆ Greater adhesive properties than vitronectin

Parts of Laminin
 α Chain $\alpha 1$ $\alpha 2$ $\alpha 3$ $\alpha 3$ $\alpha 5$
 β Chain $\beta 1$ $\beta 2$ $\beta 3$
 γ Chain $\gamma 1$ $\gamma 1$ $\gamma 1$



Culture Medium

D-MEM, RPMI-1640, etc.

Cytokines

BMP-4, BDNF, SCF, VEGF, etc.

Low Molecular Compounds

CultureSure A-83-01
 CultureSure CHIR99021 ➔ Details at P.5
 CultureSure SB431542

Cell Growth Factors

Albumin, Insulin, Transferrin, etc.

Maintenance Culture

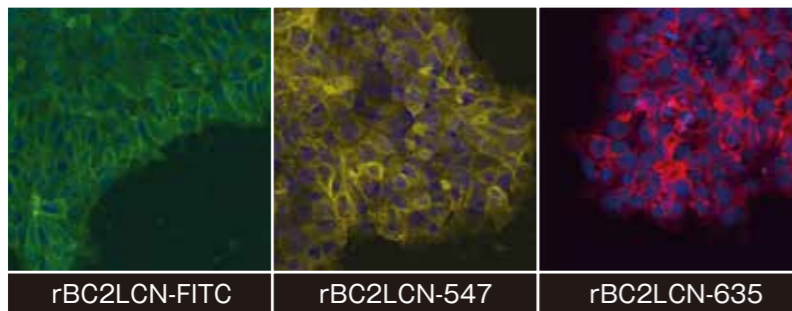
Differentiation

Quality Check

Elimination

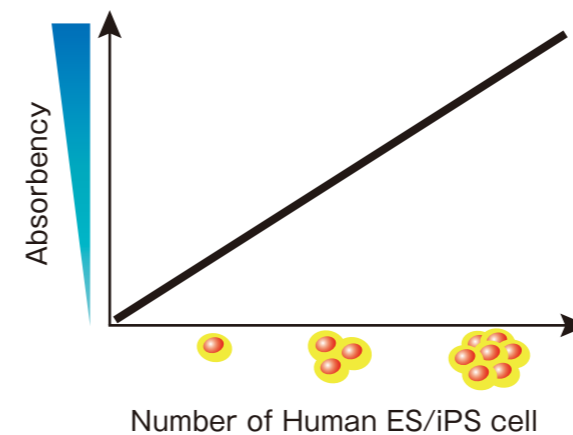
Undifferentiated Markers

rBC2LCN-FITC ➔ Details at P.6 -7
 rBC2LCN-547
 rBC2LCN-635



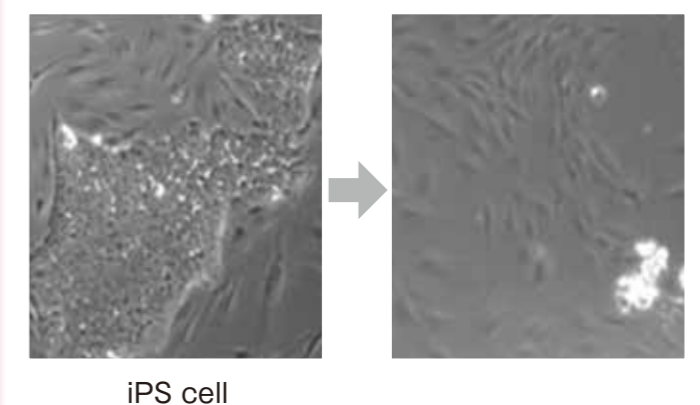
Monitoring of hPSCs

Human ES/iPS Cell Monitoring Kit



Elimination of hPSCs

rBC2LCN-PE23 ➔ Details at P.6

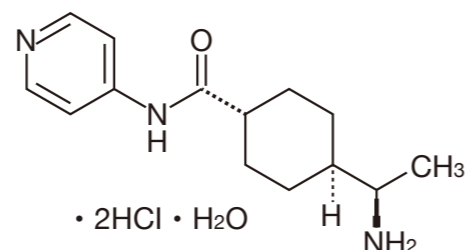


ROCK Inhibitor -Safety use for cell culture applications-

CultureSure **Y-27632 / Y-27632, MF**

Y-27632 is **Selective and strong ROCK inhibitor**. It inhibits contraction of the vascular smooth muscle, infiltration of cancer cells, and regulation of cell differentiation caused by a signal transduction system of ROCK. Y-27632 enhances post-cryopreservation survival and cloning efficiency of human ES cells and human iPS cells.

[ROCK : Rho-associated coiled-coil forming kinase / Rho binding kinase / Serine / threonine kinase protein phosphoenzyme]



CAS RN® 331752-47-7
C₁₄H₂₁N₃O • 2HCl • H₂O=338.27

MF has been registered in **Drug Master File in Japan (MF)**. We manage raw materials, conduct the validations of the manufacturing process and analytical tests and manufacture in the system obtaining permanently stable quality products.

- **Registered in MF**※2 Registration No. 227MF40013
- **Made in Japan** Manufacturing all from synthesis to packaging in Japan
- **Animal-Derived-Component-Free** Chemical synthetic products of non-use of animal-derived raw materials
- **High quality-stability** Continuous multiple lot pass record

	CultureSure Y-27632, 98%	Y-27632, MF, 98%	CultureSure 10mmol/l Y-27632 Solution, Animal-derived-free
Appearance	Powder	Powder	Liquid
Solubility	water, Ethanol	water, Ethanol	-
Mycoplasma test	passed	passed ※3	passed
Endotoxins test	less than 0.25EU/mg	less than 0.25EU/mg ※3	less than 3EU/ml
Other check	Cytotoxicity checked ※1	Viable cell count tested ※3	Sterility tested
Formulation	-	-	10mmol/l solution of Y-27632 in water

※1 human iPS cells 201B7 strain was used.

※2 It shall not be assumed that the validity and assurance of the drug substance's quality and adequacy are officially approved by MF registration.

※3 Mycoplasma test, Endotoxins test and Viable cell count test are product specification tests in each lot, but are not included in MF registration items.

Ready to Use!
It has been sterilized by filtration and is used as it is.

Reference

Ito, H., et al.: *Liver Int.*, **32**, 592 (2012).
 Kawamata, M., et al.: *Proc. Natl. Acad. Sci. USA.*, **107**, 14223 (2010).
 Claassen, DA., et al.: *Mol. Reprod. Dev.*, **76**, 722 (2009).
 Martin-Ibanez, R., et al.: *Hum. Reprod.*, **23**, 2744 (2008).
 Watanabe, K., et al.: *Nat. Biotechnol.*, **25**, 681 (2007).
 Sakamoto, K., et al.: *J. Pharmacol. Sci.*, **92**, 56 (2003).
 Nishimaru, K., et al.: *J. Pharmacol. Sci.*, **92**, 424 (2003).
 Uehata, M., et al.: *Nature*, **389**, 990 (1997).

Endotoxin & Mycoplasma tested GSK-3β Inhibitor

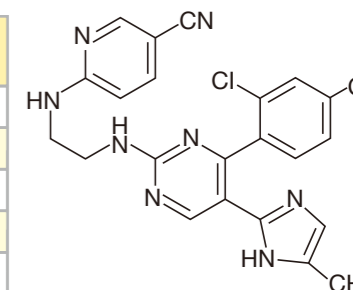
CultureSure **CHIR99021**

CultureSure series
are passed endotoxin test and mycoplasma test.

CHIR99021 is **GSK-3β inhibitor**, which selectivity is high. This product does not show cross-reactivity to CDKs (Cyclin-dependent kinases). It has been reported that differentiation can be suppressed with high efficiency when ES cells are cultured in a medium containing CHIR99021 and PD0325901. **Endotoxin tested, mycoplasma tested, and cytotoxicity checked.**

	CultureSure CHIR99021	CultureSure 10mmol/l CHIR99021 DMSO Solution, Animal-derived-free
Appearance	Powder	Liquid
Assay (HPLC)	min. 97.0%	-
Solubility	DMSO	-
Formulation	-	10mmol/l solution of CHIR99021 in DMSO
Mycoplasma test	Passed	Passed
Endotoxins test	less than 0.05EU/mg	less than 2EU/mL (measured value)
Other test	Cytotoxicity checked ※1	Sterility tested

※1 human iPS cell 201B7 strain was used



CAS RN® 252917-06-9
C₂₂H₁₈Cl₂N₈=465.34

Reference

Ying, QL., et al.: *Nature*, **453**, 519 (2008)

Product List

Product Name	Package Size	Wako Cat. No.
CultureSure Y-27632	1mg	030-24021
	5mg	036-24023
	25mg	034-24024
Y-27632, MF	5mg	259-00613
	25mg	257-00614
CultureSure 10mmol/l Y-27632 Solution, Animal-derived-free	300μL	039-24591
	1mL	035-24593
CultureSure CHIR99021	1mg	038-23101
	5mg	034-23103
	100mg	032-23104
CultureSure 10mmol/l CHIR99021 DMSO Solution, Animal-derived-free	300μl	038-24681
	1mg	034-24801
CultureSure A419259 Trihydrochloride (We cannot sell this product to United States for its patent.)	5mg	030-24803
	25mg	038-24804
	100mg	034-24806
	2mg	039-24111
CultureSure A-83-01	10mg	035-24113
	5mg	010-26741
A-83-01, MF	25mg	018-26742
CultureSure CKI-7 Dihydrochloride	5mg	035-23971
CultureSure 3mmol/l CKI-7 Dihydrochloride Solution, Animal-derived-free	1mL	039-24611
	5mg	034-24301
CultureSure IWP-2	25mg	030-24303
	5mg	031-24291
CultureSure SB431542	25mg	037-24293
	500mg	035-24294
	1mL	033-24631
CultureSure 5mmol/l SB431542 DMSO Solution, Animal-derived-free	5mg	193-18031
	25mg	199-18033

rBC2LCN Series – Lectin, Markers of Undifferentiated hPSCs –

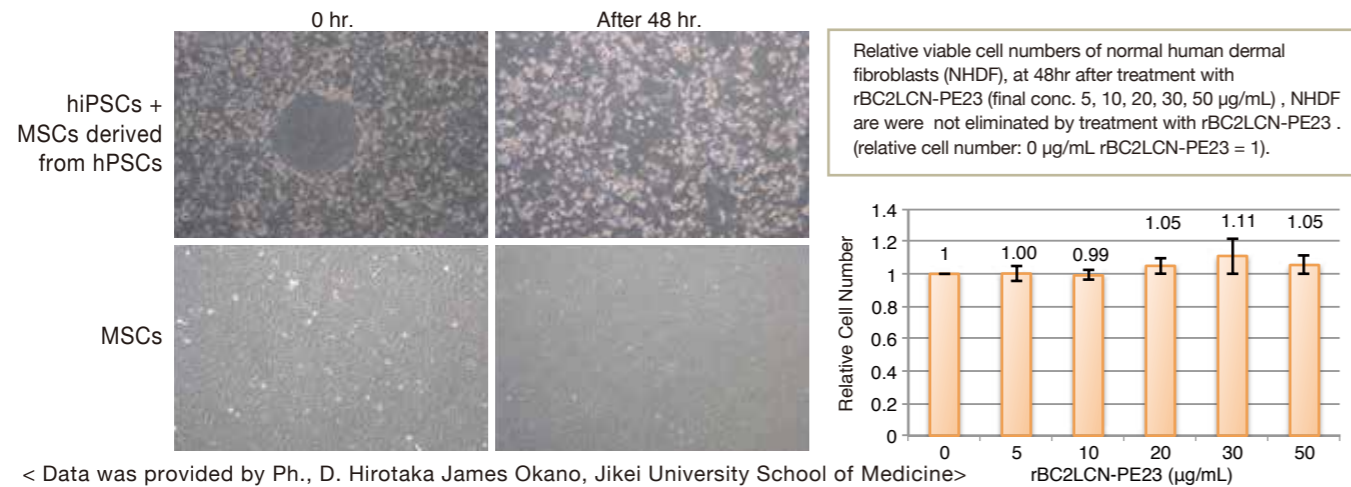
rBC2LCN(AiLecS1) is a recombinant lectin expressed in *Escherichia coli*. It has been identified as a protein capable of binding to sugar chain which exists on the surface of undifferentiated human ES/iPS cells (hPSCs), and may provide new opportunity for the imaging probe to the undifferentiated hPSCs. rBC2LCN is collaborative development product with National Institute of Advanced Industrial Science and Technology (Japan).

Undifferentiated hES/hiPSC Elimination Solution

rBC2LCN-PE23 is a recombinant lectin-toxin fusion protein of rBC2LCN with a catalytic domain of *Pseudomonas aeruginosa* exotoxin A. rBC2LCN-PE23 binds to, enters in and eliminates undifferentiated hPSCs.

- Selectively eliminate the remaining undifferentiated hPSCs after inducing differentiation
- Only add the reagent to cells in culture medium without dispersing the cells

Differentiated human iPS cells (hiPSCs) derived from a disease patient into mesenchymal stem cells (MSCs), and added rBC2LCN-PE23 (final conc. 10 µg/mL) to hiPSCs and MSCs in the culture medium. After 24 hours, the colony of hiPSCs began to collapse. And 48 hours, most of hPSCs were eliminated. On the other hand, MSCs were not affected rBC2LCN-PE23.



Product List

Product Name	Package Size	Wako Cat. No.
BC2LCN [AiLecS1] Lectin, recombinant, Solution	1mg	029-18061
	1mg x 5	025-18063
rBC2LCN-PE23 (Undifferentiated hES/hiPSC Elimination Solution)	100µL	180-03231
	100µL x 5	186-03233
rBC2LCN-FITC [AiLecS1-FITC]	100µL	180-02991
	100µLx5	186-02993
rBC2LCN-547 [AiLecS1-547] Labelled with yellow fluorescence dye, similar to Cy3	100µL	186-03211
rBC2LCN-635 [AiLecS1-635] Labelled with red fluorescence dye, similar to Cy5	100µL	185-03161
	100µLx5	181-03163
rBC2LCN Stripping Solution	10mL	182-03171

hES/hiPSC Staining Solution

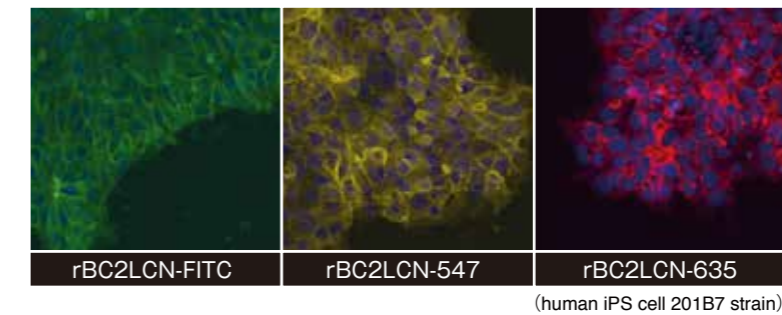
rBC2LCN-FITC (Ex 495 nm, Em 520 nm)

rBC2LCN-547 (Ex 551 nm, Em 565 nm)

rBC2LCN-635 (Ex 634 nm, Em 654 nm)

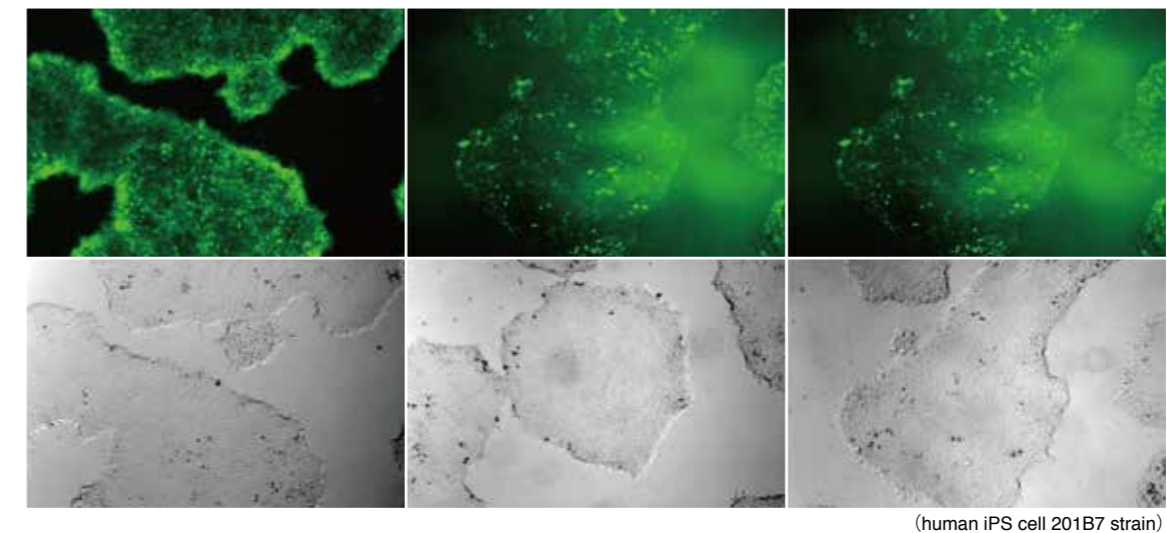
rBC2LCN lectin has been shown to exhibits significant affinity to a mucin-type O-glycan sugar chain called H-type3 (Fuc α1-2Gal β1-3GalNAc) on the podocalyxin the surface of human pluripotent stem cells (hPSCs), human ES cells and human iPS cells. rBC2LCN was reported as a marker of undifferentiated hPSCs.

- Capable of staining hPSCs just by adding to cells in culture medium
- Capable of staining in living and fixed cells
- Capable of culturing hPSCs in the state which were stained with rBC2LCN because of low cytotoxicity
- Applicable to cell stain and flow cytometry



Live cell staining of human iPS cells (Live Cell Imaging)

Stained human iPS cells (hiPSCs) (201B7 strain) with rBC2LCN, Tra-1-60 and Tra-1-81.



<Data was provided by Dr. Onuma and Dr. Ito, National Institute of Advanced Industrial Science and Technology >

Reference

- Tateno, H., Onuma, Y., Ito Y, Minoshima, F., Saito, S., Shimizu, M., Aiki, Y., Asashima, M. and Hirabayashi, J.: *Stem Cell Reports*, **4**, 811 (2015).
 Masuda, S., Miyagawa, S., Fukushima, S., Sougawa, N., Okimoto, K., Tada, C., Saito, A. and Sawa, Y.: *Protein Cell*, **6**, 469 (2015).
 Onuma, Y., et al.: *Biochem. Biophys. Res. Commun.*, **431**, 524 (2013).
 Tateno, H., et al.: *Stem Cells Transl. Med.*, **2**, 265 (2013).
 Tateno, H., et al.: *Sci. Rep.*, **4**, 4069 (2014).

Note: After thawing, store at 2-10°C and use within four weeks. If you don't use within 4 weeks, you should make aliquots and store at -20°C. Avoid repeating freeze-thaw.

Product Name		Package Size / Wako Cat. No.			
StemSure Series	StemSure Series is a group of products whose quality has been confirmed by culturing mouse ES cells and iPS cells, and we perform quality test using mouse ES D3 strain cells or human iPS 201B7 strain cells every production.				
	StemSure hPSC Medium Δ	100 mL	197-17571	100 mL × 4	193-17573
	StemSure D-MEM (High Glucose) with Phenol Red and Sodium Pyruvate			500 mL	197-16275
	StemSure Serum Replacement (SSR)			500 mL	191-18375
	StemSure 10mmol/l 2-Mercaptoethanol Solution (×100)			100 mL	198-15781
	StemSure 50mmol/l Monothioglycerol Solution (×100)			100 mL	195-15791
	StemSure 0.1w/v% Gelatin Solution			500 mL	190-15805
	StemSure Freezing Medium			100 mL	195-16031
	StemSure hPSC Freezing Medium, AF			100 mL	197-17831
	StemSure LIF, Mouse, recombinant, Solution	1,000,000 units	199-16051	1,000,000 units × 10	195-16053
rBC2LCN	Recombinant BC2LCN can be used for research of human ES and iPS cells. rBC2LCN is expected to be applicable not only to stem cell research but also to regenerative medicine since it is reportedly a useful marker for detection of undifferentiated cells.				
	BC2LCN (AiLecS1) Lectin, recombinant, Solution	1 mg	029-18061	1 mg × 5	025-18063
	rBC2LCN-PE23	100 μL	180-03231	100 μL × 5	186-03233
	rBC2LCN Stripping Solution			10 mL	182-03171
	rBC2LCN-547 (AiLecS1-547)			100 μL	186-03211
	rBC2LCN-635 (AiLecS1-635)	100 μL	185-03161	100 μL × 5	181-03163
rBC2LCN-FITC (AiLecS1-FITC)	100 μL	180-02991	100 μL × 5	186-02993	
Human ES/iPS Cell Monitoring Kit			96 Tests	299-78301	
Culture Medium	Ready-to-Use general-purpose liquid culture media such as D-MEM, E-MEM, RPMI-1640, etc. are available just after warming to incubation temperature (around 37° C) because each is filtration sterilized. Balanced salt solutions can be used to prepare dilutions or to wash cells while maintaining osmotic pressure.				
	StemSure D-MEM (High Glucose) with Phenol Red and Sodium Pyruvate			500 mL	197-16275
	D-MEM (High Glucose) with L-Glutamine and Phenol Red			500 mL	044-29765
	D-MEM (High Glucose) with L-Glutamine, Phenol Red and Sodium Pyruvate			500 mL	043-30085
	D-MEM (High Glucose) with L-Glutamine, Phenol Red, Sodium Pyruvate and 1,500mg/l Sodium Bicarbonate			500 mL	049-32645
	D-MEM (High Glucose) with L-Glutamine, Phenol Red and HEPES			500 mL	048-30275
	D-MEM (High Glucose) with L-Glutamine and HEPES			500 mL	044-32955
	D-MEM (High Glucose) with Phenol Red			500 mL	045-30285
	D-MEM (High Glucose) with Phenol Red and Sodium Pyruvate			500 mL	045-32245
	D-MEM (High Glucose) without L-Glutamine and Phenol Red			500 mL	040-30095
	D-MEM (High Glucose) with Sodium Pyruvate, without Amino Acids			500 mL	048-33575
	D-MEM (High Glucose) with L-Glutamine and Phenol Red, Powder	for 1 L x 10	049-33561	for 10 L x 1	045-33563
	D-MEM (High Glucose) with L-Glutamine and Sodium Pyruvate, Powder	for 1 L x 10	297-72501	for 10 L x 1	293-72503
	D-MEM (Low Glucose) with L-Glutamine and Phenol Red			500 mL	041-29775
	D-MEM (Low Glucose) with Sodium Pyruvate, AF			500 mL	044-33555
	D-MEM (No Glucose) with L-Glutamine and Phenol Red			500 mL	042-32255
	E-MEM with L-Glutamine and Phenol Red			500 mL	051-07615
	E-MEM with Phenol Red and Non-essential Amino Acids			500 mL	056-08385
	E-MEM with L-Glutamine, Phenol Red, Sodium Pyruvate, Non-essential Amino Acids and 1,500mg/l Sodium Bicarbonate			500 mL	055-08975
	E-MEM with L-Glutamine and Phenol Red, Powder	for 1 L x 10	054-09001	for 10 L x 1	050-09003
	G-MEM with L-Glutamine and Phenol Red			500 mL	078-05525
	MEM α with L-Glutamine and Phenol Red			500 mL	135-15175
	MEM α with L-Glutamine, Phenol Red, Sodium Pyruvate and Nucleosides			500 mL	137-17215
	MEM α with L-Glutamine, Sodium Pyruvate and Nucleosides			500 mL	134-17225
	MEM α with L-Glutamine and Phenol Red, Powder	for 1 L x 10	130-18621	for 10 L x 1	136-18623
	RPMI-1640 with L-Glutamine and Phenol Red	500 mL	189-02025	1 L	187-02021
	RPMI-1640 (No Glucose) with L-Glutamine and Phenol Red			500 mL	185-02865
	RPMI-1640 with L-Glutamine, Phenol Red and HEPES			500 mL	189-02145
	RPMI-1640 (4,500mg/l Glucose) with L-Glutamine, Phenol Red, HEPES and Sodium Pyruvate			500 mL	187-02705
	RPMI-1640 with L-Glutamine			500 mL	186-02155
	RPMI-1640 with Phenol Red			500 mL	183-02165
	RPMI-1640 with L-Glutamine and Phenol Red, Powder	for 1 L x 10	187-03241	for 10 L x 1	183-03243
	Ham's F-12 with L-Glutamine and Phenol Red			500 mL	087-08335
	Ham's F-12 with L-Glutamine and Phenol Red, Powder			for 1 L x 10	084-10153
	Ham's F-12K with L-Glutamine, Phenol Red and Sodium Pyruvate			500 mL	080-08565
	D-MEM/Ham's F-12 with L-Glutamine and Phenol Red			500 mL	048-29785
	D-MEM/Ham's F-12 with L-Alanyl-L-Glutamine, Phenol Red and Sodium Pyruvate			500 mL	046-32275
	D-MEM/Ham's F-12 with L-Glutamine, Phenol Red, HEPES and Sodium Pyruvate			500 mL	042-30555
	D-MEM/Ham's F-12 with L-Glutamine and Sodium Pyruvate			500 mL	045-30665
	D-MEM/Ham's F-12 with Phenol Red, HEPES and Sodium Pyruvate			500 mL	042-30795
	D-MEM/Ham's F-12 with L-Glutamine and Phenol Red, Powder	for 1 L x 10	043-33743	for 10 L x 1	041-33744
	IMDM with L-Glutamine, Phenol Red, HEPES and Sodium Pyruvate			500 mL	098-06465
	Leibovitz's L-15 Medium with L-Glutamine, Phenol Red and Sodium Pyruvate			500 mL	128-06075
	200mmol/l L-Alanyl-L-Glutamine Solution (×100)			100 mL	016-21841
	200mmol/l L-Glutamine Solution (×100)			100 mL	073-05391
	MEM Non-essential Amino Acids Solution (×100)			100 mL	139-15651
	D-PBS (-)			500 mL	045-29795
	10x D-PBS (-)			500 mL	048-29805
	D-PBS (-), Powder	for 1 L x 10	293-72601	for 10 L x 1	299-72603
	PBS (-)			500 mL	166-23555
10x PBS (-)			500 mL	163-25265	
HBSS (-) with Phenol Red			500 mL	084-08345	
HBSS (-) without Phenol Red			500 mL	085-09355	
10x HBSS (-) without Phenol Red			500 mL	082-09865	
HBSS (+) with Phenol Red			500 mL	082-09365	
HBSS (+) without Phenol Red	500 mL	084-08965	1 L	082-08961	
Antibiotic & Antimycotic Solutions	We offer a variety of antibiotic solutions that can be used to prevent or eliminate contamination of media by bacteria, yeast, mold and mycoplasma.				
	Amphotericin B Suspension			50 mL	019-23891
	50mg/ml G-418 Sulfate Solution, Animal-derived-free	20 mL	071-06431	100 mL	077-06433
	Gentamicin Sulfate Solution (50mg/ml)			10 mL	078-06061
	Kanamycin Sulfate Solution (50mg/ml)			20 mL	117-00961
	1mg/ml Mitomycin C Solution			1 mL	133-15931
	Penicillin-Streptomycin Solution (×50)			100 mL	164-25251
	Penicillin-Streptomycin Solution (×100)			100 mL	168-23191
	Penicillin-Streptomycin-Amphotericin B Suspension (×100) (Antibiotic-Antimycotic Solution)			100 mL	161-23181
	Penicillin-Streptomycin-L-Glutamine Solution (×100)			100 mL	161-23201

Product Name		Package Size / Wako Cat. No.							
Cell Growth Factors	Involved in the regulation of various cytological and physiological processes, growth factors are known to promote cell differentiation and proliferation. They also initiate signal transduction when they bind to specific receptor proteins on the cell surface. In addition to animal-derived products, we also offer products made from plants and without recombinant factors synthesized from any materials from animal sources. (* : The products cannot be exported to United States.)								
	Albumin, from Bovine Serum (BSA), Fraction V, pH 7.0	10 g	019-27051	50 g	015-27053	100 g	013-27054	500 g	011-27055 *
	Albumin, from Bovine Serum (BSA), Fatty Acid Free	5 g	017-15146	10 g	017-15141	50 g	013-15143	100 g	011-15144 *
	Albumin, from Bovine Serum (BSA), pH 7.0, New Zealand Origin					5 g	012-23381	25 g	010-23382
	Albumin, from Human Serum (HSA)			1 g	010-27601	5 g	016-27603	10 g	014-27604
	Albumin, Human, recombinant expressed in plants					1 g	018-21541	5 g	014-21543
	Transferrin (Holo), from Human Blood					100 mg	208-18971	1 g	204-18973
	Transferrin (Apo), from Human Blood							100 mg	205-18121
	Transferrin, Human, recombinant			100 mg	201-18081	500 mg	207-18083	1 g	205-18084
	Insulin, Human, recombinant	50 mg	093-06471	100 mg	099-06473	1 g	097-06474	10 g	093-06476
Insulin, Human, recombinant, Animal-derived-free			50 mg	090-06481	250 mg	096-06483	1 g	094-06484	
Lactoferrin, from Bovine Milk	100 mg	125-04123	1 g	123-04124	5 g	129-04121	25 g	127-04122	
Cytokines	Cytokines related to ES and iPS Cells. Each biological activity is shown in the package insert which can be seen through our online catalog or please contact us.								
	Activin A Solution, Human, recombinant			10 μg	014-27621	50 μg	010-27623	50 μg×5	018-27624
	BAFF (BLyS / TNFSF13B / TALL-1 / THANK), Human, recombinant							20 μg	025-15121
	Brain Derived Neurotrophic Factor (BDNF), Human, recombinant					10 μg	020-12913	1 mg	028-12914
	Bone Morphogenetic Protein 2 (BMP-2), Human, recombinant					5 μg	026-14811	100 μg	022-14813
	Bone Morphogenetic Protein 4 (truncated) (BMP-4), Human, recombinant							10 μg	022-17071
	Bone Morphogenetic Protein 4 (BMP-4), Mouse, recombinant			10 μg	023-18461	500 μg			027-18464
	Bone Morphogenetic Protein 6 (BMP-6), Human, recombinant							10 μg	022-16731
	Bone Morphogenetic Protein 7 (BMP-7), Human, recombinant							10 μg	026-19171
	Bone Morphogenetic Protein 13 (BMP-13 / CDMP-2 / GDF-6), Human, recombinant					50 μg			020-15073
	Cardiotrophin-1 (CT-1), Human, recombinant							10 μg	034-18811
	Cardiotrophin-1 (CT-1), Mouse, recombinant							10 μg	031-18821
	Ciliary Neurotrophic Factor (CNTF), Human, recombinant							20 μg	032-18851
	Ciliary Neurotrophic Factor (CNTF), Rat, recombinant							20 μg	034-16351
	DKK-1, Human, recombinant			10 μg	044-34231	1 mg			040-34233
	Epidermal Growth Factor (EGF), Mouse, recombinant							500 μg	053-07751
	EGF Receptor soluble (EGFR), Human, recombinant							10 μg	058-08281
	Fibroblast Growth Factor (basic) (bFGF / FGF2), Human, recombinant (147aa)							25 μg	067-04031
	Fibroblast Growth Factor (basic) (bFGF / FGF2), Human, recombinant (154aa)	50 μg	064-04541	100 μg	060-04543	1 mg			068-04544
	Fibroblast Growth Factor 4 (FGF4), Human, recombinant							25 μg	062-04341
	Fibroblast Growth Factor 5 (FGF5), Human, recombinant							50 μg	069-04351
	Fibroblast Growth Factor 6 (FGF6), Human, recombinant							25 μg	066-04361
	Fibroblast Growth Factor 8 (FGF8b), Human, recombinant	25 μg	063-04371	500 μg					069-04373
	Flt3 Ligand, Human, recombinant	10 μg	061-04051	1 mg					067-04053
	Flt3 Ligand, Mouse, recombinant							10 μg	060-04803
	Follistatin (FS), Human, recombinant							20 μg	068-05921
	GDF-2, Human, recombinant							10 μg	073-06011
	GDF-3, Human, recombinant							20 μg	072-05121
	Glial Cell Line-derived Neurotrophic Factor (GDNF), Human, recombinant	10 μg	075-04153	1 mg					073-04154
	Granulocyte Colony-Stimulating Factor (G-CSF), Mouse, recombinant							10 μg	071-04851
	Granulocyte-Macrophage Colony-Stimulating Factor (GM-CSF), Human, recombinant			20 μg	075-04114	1 mg			077-04113
	Granulocyte-Macrophage Colony-Stimulating Factor (GM-CSF), Mouse, recombinant			20 μg	077-04674	1 mg			079-04673
	Granulocyte-Macrophage Colony-Stimulating Factor (GM-CSF), Rat, recombinant							20 μg	072-05263
	Hepatocyte Growth Factor (HGF), Human, Insect Cells recombinant	10 μg	082-08721	500 μg					086-08724
	Hepatocyte Growth Factor (HGF), Mouse, recombinant (expressed in Insect Cells)							20 μg	082-09321
	Interferon-γ (IFN-γ), Human, recombinant	100 μg	093-05631	1 mg					099-05633
	Interferon-γ (IFN-γ), Mouse, recombinant	100 μg	094-04701	1 mg					090-04703
	Interferon-γ (IFN-γ), Rat, recombinant							100 μg	099-04251
	Insulin-like Growth Factor-I (IGF-I), Human, recombinant							100 μg	099-04511
	Insulin-like Growth Factor-I (IGF-I), Mouse, recombinant							50 μg	096-05621
	Insulin-like Growth Factor-II (IGF-II), Human, recombinant							50 μg	092-04523
	Interleukin-3 (IL-3), Human, recombinant							10 μg	092-04621
	Interleukin-3 (IL-3), Mouse, recombinant	10 μg	091-03971	1 mg					097-03973
	Interleukin-6 (IL-6), Human, recombinant	20 μg	099-04631	1 mg					095-04633
	Interleukin-6 (IL-6), Mouse, recombinant	10 μg	093-04433	1 mg					091-04434
	Interleukin-6 (IL-6), Rat, recombinant							10 μg	093-04271
	Keratinocyte Growth Factor (KGF / FGF7), Human, recombinant							10 μg	119-00661
	MCP-1 (CCL2), Human, recombinant	20 μg	137-13011	1 mg					133-13013
	Nanog, Human, recombinant							20 μg	145-08461
	Noggin (Dimer), Human, recombinant (expressed in HEK293 Cells)	20 μg	149-08861	500 μg					145-08863
Noggin, Mouse, recombinant	20 μg	146-08991	1 mg					142-08993	
R-Spondin-1, Human, recombinant	20 μg	181-02801	500 μg					185-02804	
R-Spondin-2, Human, recombinant	20 μg	180-02871	1 mg					186-02873	
R-Spondin-3, Human, recombinant	20 μg	187-02881	1 mg					183-02883	
Sonic Hedgehog (Shh), Human, recombinant	25 μg	198-18341	500 μg					194-18343	
Stem Cell Factor (SCF), Human, recombinant	10 μg	193-12811	1 mg					199-12813	
Stem Cell Factor (SCF), Mouse, recombinant	10 μg	197-12711	1 mg					193-12713	
Stem Cell Factor (SCF), Rat, recombinant									

Product Name	Package Size / Wako Cat. No.
Fibroblast Growth Factor 4 (FGF4), Human, recombinant, Animal-derived-free	25 µg 065-06031 500 µg × 2 069-06034
Fibroblast Growth Factor 8 (FGF8b), Human, recombinant, Animal-derived-free	25 µg 067-06231 500 µg 061-06234
Fibroblast Growth Factor 9 (FGF9), Human, recombinant, Animal-derived-free	20 µg 066-06201 1 mg 062-06203
Fibroblast Growth Factor 10 (FGF10), Human, recombinant, Animal-derived-free	25 µg 069-06051 1 mg 065-06053
Flt3 Ligand, Human, recombinant, Animal-derived-free	10 µg 061-05391 1 mg 067-05393
Glial Cell Line-derived Neurotrophic Factor (GDNF), Human, recombinant, Animal-derived-free	10 µg 070-06261 250 µg 074-06264 1 mg 076-06263
Granulocyte Colony-Stimulating Factor (G-CSF), Human, recombinant, Animal-derived-free	10 µg 072-06101 1 mg 078-06103
Granulocyte-Macrophage Colony-Stimulating Factor (GM-CSF), Human, recombinant, Animal-derived-free	20 µg 074-05603 1 mg 072-05604
Granulocyte-Macrophage Colony-Stimulating Factor (GM-CSF), Mouse, recombinant, Animal-derived-free	20 µg 075-05633 1 mg 073-05634
Heregulin-β-1, Human, recombinant, Animal-derived-free	50 µg 080-09001 1 mg 086-09003
Insulin-like Growth factor-I (IGF-I), Human, recombinant, Animal-derived-free	100 µg 096-05741 1 mg 092-05743
Insulin-like Growth factor- II (IGF- II), Human, recombinant, Animal-derived-free	50 µg 093-06611 1 mg 099-06613
Interferon-γ (IFN-γ), Human, recombinant, Animal-derived-free	100 µg 093-06111 1 mg 099-06113
Interferon-γ (IFN-γ), Mouse, recombinant, Animal-derived-free	100 µg 090-06981 1 mg 096-06983
Interleukin-1α (IL-1α), Human, recombinant, Animal-derived-free	10 µg 098-06801 1 mg 094-06803
Interleukin-1β (IL-1β), Human, recombinant, Animal-derived-free	10 µg 090-06121 1 mg 096-06123
Interleukin-2 (IL-2), Human, recombinant, Animal-derived-free	50 µg 093-05751 1 mg 099-05753
Interleukin-3 (IL-3), Human, recombinant, Animal-derived-free	10 µg 090-05761 1 mg 096-05763
Interleukin-3 (IL-3), Mouse, recombinant, Animal-derived-free	10 µg 097-06131 1 mg 093-06133
Interleukin-4 (IL-4), Human, recombinant, Animal-derived-free	20 µg 095-05733 1 mg 093-05734
Interleukin-4 (IL-4), Mouse, recombinant, Animal-derived-free	20 µg 090-06621 1 mg 096-06623
Interleukin-6 (IL-6), Human, recombinant, Animal-derived-free	20 µg 098-06041 1 mg 094-06043
Interleukin-6 (IL-6), Mouse, recombinant, Animal-derived-free	10 µg 094-07001 1 mg 090-07003
Interleukin-7 (IL-7), Human, recombinant, Animal-derived-free	10 µg 094-06641 1 mg 090-06643
Interleukin-8 (monocyte-derived) (IL-8), Human, recombinant, Animal-derived-free	25 µg 093-07191 1 mg 099-07193
Interleukin-15 (IL-15), Human, recombinant, Animal-derived-free	10 µg 095-07031 1 mg 091-07033
Interleukin-16 (IL-16), Human, recombinant, Animal-derived-free	10 µg 094-06141 1 mg 090-06143
Keratinocyte Growth Factor (KGF / FGF7), Human, recombinant, Animal-derived-free	10 µg 116-00811 500 µg 110-00814 1 mg 112-00813
LIF, Human, recombinant, Animal-derived-free	25 µg 125-06661 1 mg 121-06663
Macrophage Colony-Stimulating Factor (M-CSF), Human, recombinant, Animal-derived-free	10 µg 138-16101 1 mg 134-16103
Macrophage Colony-Stimulating Factor (M-CSF), Mouse, recombinant, Animal-derived-free	10 µg 131-16831 1 mg 137-16833
MCP-1 (CCL2), Human, recombinant, Animal-derived-free	20 µg 131-17051 1 mg 137-17053
Nerve Growth Factor-β (NGF-β), Human, recombinant, Animal-derived-free	20 µg 140-09131 1 mg 146-09133
Neurotrophin-3 (NT3), Human, recombinant, Animal-derived-free	10 µg 146-09231 250 µg 140-09234 1 mg 142-09233
Noggin, Mouse, recombinant, Animal-derived-free	20 µg 140-09491 500 µg 144-09494
Oncostatin M (209aa), Human, recombinant, Animal-derived-free	10 µg 152-03411 1 mg 158-03413
PDGF-AA, Human, recombinant, Animal-derived-free	10 µg 165-25541 1 mg 161-25543
PDGF-BB, Human, recombinant, Animal-derived-free	10 µg 164-24031 1 mg 160-24033
Placenta Growth Factor-1 (PLGF-1), Human, recombinant, Animal-derived-free	25 µg 167-24021 1 mg 163-24023
Stem Cell Factor (SCF), Human, recombinant, Animal-derived-free	10 µg 197-15511 250 µg 191-15514 1 mg 193-15513
Stem Cell Factor (SCF), Mouse, recombinant, Animal-derived-free	10 µg 196-15581 1 mg 192-15583
Stromal Cell-Derived Factor-1α (SDF-1α), Human, recombinant, Animal-derived-free	10 µg 199-17031 1 mg 195-17033
Thrombopoietin (TPO), Human, recombinant, Animal-derived-free	10 µg 207-17581 500 µg 201-17584
Thrombopoietin (TPO), Mouse, recombinant, Animal-derived-free	10 µg 202-19611 1 mg 208-19613
Thrombopoietin (TPO), Rat, recombinant, Animal-derived-free	10 µg 204-17591 1 mg 200-17593
Transforming Growth Factor-β3 (TGF-β3), Human, recombinant, Animal-derived-free	10 µg 207-19281 100 µg 201-19284 1 mg 203-19283
Tumor Necrosis Factor-α (TNF-α), Human, recombinant, Animal-derived-free	50 µg 201-18581 1 mg 207-18583
Vascular Endothelial Growth Factor-A165 (VEGF), Human, recombinant, Animal-derived-free	10 µg 226-01781 100 µg 226-01786 500 µg 220-01784 1 mg 222-01783
Vascular Endothelial Growth Factor-A165 (VEGF), Mouse, recombinant, Animal-derived-free	10 µg 223-02031 1 mg 229-02033
Vascular Endothelial Growth Factor-A121 (VEGF-A121), Human, recombinant, Animal-derived-free	10 µg 222-02001 1 mg 228-02003

This serum replacement and supplements are particularly optimized to grow ES / iPS cells and Nerve cells in culture.

Product Name	Package Size / Wako Cat. No.
StemSure Serum Replacement (SSR)	500 mL 191-18375
NS Supplement (×50)	10 mL 146-09351
NS Supplement without Vitamin A (×50)	10 mL 142-09691
NS Supplement without Insulin (×50)	10 mL 149-09721 50 mL 145-09723
N2 Supplement with Transferrin (Holo) (×100)	5 mL 141-08941
N2 Supplement with Transferrin (Apo) (×100)	5 mL 141-09041

We offer a wide range of low molecular weight compounds that have been shown by many studies to be involved in maintaining an undifferentiated state or inducing differentiation in ES and iPS cells.
 MF: MF has been registered in Drug Master File in Japan. We manage raw materials, conduct the validations of the manufacturing process and analytical tests and manufacture in the system obtaining permanently stable quality products. (: The products cannot be exported to United States.)

Product Name	Package Size / Wako Cat. No.
CultureSure A-83-01	2 mg 039-24111 10 mg 035-24113
A-83-01, MF	5 mg 010-26741 25 mg 018-26742
ALK5 Inhibitor	1 mg 012-23021 10 mg 018-23023
(+/-)-Bay K 8644	5 mg 027-09951
BIX01294	2 mg 023-16401
(-)-Blebbistatin	1 mg 021-17041 5 mg 027-17043
6-Bromoindirubin-3'-oxime	1 mg 029-16241
Butyric Acid	25 mL 029-05393 500 mL 023-05396
CultureSure CHIR99021	1 mg 038-23101 5 mg 034-23103 100 mg 032-23104
CultureSure 10mmol/l CHIR99021 DMSO Solution, Animal-derived-free	300 µL 038-24681
Cyclic Pifithrin-α Hydrobromide	5 mg 036-24001
3-Deazaneplanocin A Hydrochloride (DZNep)	1 mg 049-33701
DNA Methyltransferase Inhibitor (RG108)	10 mg 041-30101 25 mg 047-30103
EHNA Hydrochloride	10 mg 056-08221
GF 109203X	1 mg 079-03811
H1152 Dihydrochloride	1 mg 088-09281
HA-100 Hydrochloride	10 mg 086-10071
IM-12	5 mg 091-07131
IQ-1	5 mg 095-05951
Kenpaullone	1 mg 110-00831 5 mg 116-00833
KI16425	5 mg 115-01001
PD0325901	5 mg 162-25291 25 mg 168-25293
PD173074	5 mg 160-26831
PD184352	5 mg 165-26761
PD-98059	5 mg 169-19211
PS48	10 mg 164-26851
SB203580	1 mg 199-16551 5 mg 195-16553
SB203580 Hydrochloride	1 mg 198-16761

Product Name	Package Size / Wako Cat. No.
SC-1	1 mg 191-15411
Sodium Butyrate	25 g 193-01522 500 g 197-01525
SU5402	1 mg 197-16731 5 mg 193-16733 25 mg 191-16734
Thiazovivin	1 mg 202-18011 5 mg 208-18013
U0126	5 mg 211-01051
Valproic Acid	5 g 227-01071 25 g 225-01072
WH-4-023	5 mg 234-02741
CultureSure Y-27632	1 mg 030-24021 5 mg 036-24023 25 mg 034-24024
Y-27632, MF	5 mg 259-00613 25 mg 257-00614
CultureSure 10mmol/l Y-27632 Solution, Animal-derived-free	300 µL 039-24591 1 mL 035-24593
CultureSure A419259 Trihydrochloride	1 mg 034-24801 5 mg 030-24803 25 mg 038-24804 100 mg 034-24806
AICAR	100 mg 015-22531 1 g 011-22533
Am580	5 mg 014-16631
Ciclosporin A	50 mg 031-24931 200 mg 037-24933
Ciglitazone	5 mg 030-20981
CultureSure CKI-7 Dihydrochloride	5 mg 035-23971
CultureSure 3mmol/l CKI-7 Dihydrochloride Solution, Animal-derived-free	1 mL 039-24611
DAPT	5 mg 043-33581 25 mg 049-33583
Dorsomorphin	1 mg 044-33751 5 mg 040-33753
Dorsomorphin Dihydrochloride	1 mg 041-33761 5 mg 047-33763
IPA-3	5 mg 092-07041
CultureSure IWP-2	5 mg 034-24301 25 mg 030-24303
CultureSure IWR-1-endo	5 mg 037-25131 25 mg 033-25133
LY 294002	5 mg 129-04861 10 mg 125-04863 25 mg 123-04864
PluriSin1	10 mg 165-27501
Purmorphamine	5 mg 166-23991
all-trans-Retinoic Acid	50 mg 186-01114 100 mg 182-01116 250 mg 182-01111 1 g 188-01113
CultureSure SB431542	5 mg 031-24291 25 mg 037-24293 500 mg 035-24294
CultureSure 5mmol/L SB431542 DMSO Solution, Animal-derived-free	1 mL 033-24631
SB431542, MF	5 mg 193-18031 25 mg 199-18033
Shz-1	5 mg 196-18021
Spermine	250 mg 198-09811 1 g 194-09813
Trichostatin A	1 mg 203-17561 5 mg 209-17563
Troglitazone	5 mg 209-19481 50 mg 205-19483
TWS119	1 mg 206-17671 5 mg 202-17673
XAV939	5 mg 247-00951 25 mg 243-00953 100 mg 241-00954

It has been shown that the extracellular matrices support normal cell functions and play an important role in cell division and differentiation. These products can be used as coating agents for cell cultures. (*: The products can not be exported to United States.)

Product Name	Package Size / Wako Cat. No.
Laminin Solution, from Mouse EHS Tumor	1 mg 120-05751
Fibronectin Solution, from Human Plasma	1 mg 063-05591
Fibronectin, from Bovine Plasma, New Zealand Origin	1 mg 062-05701 5 mg 068-05703
Vitronectin (20-398 aa), Human, recombinant, Solution	500 µg 220-02041
Adhesamine	1 mg 010-23201
StemSure 0.1w/v% Gelatin Solution	500 mL 190-15805
EHS-gel Basement Membrane Matrix	5 mL 055-09031
[Nitta Gelatin Inc.]	
Cellmatrix Type I-A (Collagen, Type I, 3mg/mL, pH 3.0)	20 mL 631-00651 100 mL 637-00653
Cellmatrix Type I-C (Collagen, Type I, 3mg/mL, pH 3.0)	20 mL 631-00771 100 mL 637-00773 *
Cellmatrix Type I-P (Collagen, Type I, 3mg/mL, pH 3.0)	20 mL 638-00661 100 mL 634-00663
Cellmatrix Type III (Collagen, Type III, 3mg/mL, pH 3.0)	5 mL 631-01011 20 mL 637-01013 100 mL 635-01014 *
Cellmatrix Type IV (Collagen, Type IV, 3mg/mL, pH 3.0)	5 mL 638-05921 20 mL 634-05923 100 mL 632-05924 *
[Nippi, Inc.]	
Collagen Type I bovine skin (pepsin solubilized collagen) 3mg/mL	20 mL 303-95713 100 mL 307-95711
Collagen Type I bovine skin (acid solubilized collagen) 3mg/mL	20 mL 303-95693 100 mL 307-95691
Collagen Type I bovine tendon (pepsin solubilized collagen) 3mg/mL	20 mL 300-95723 100 mL 304-95721
Collagen Type I ostrich tendon (pepsin solubilized collagen) 3mg/mL	20 mL 305-95773 100 mL 309-95771
Collagen Type I porcine skin (pepsin solubilized collagen) 3mg/mL	20 mL 307-95733 100 mL 301-95731
Collagen Type I porcine tendon (pepsin solubilized collagen) 3mg/mL	20 mL 304-95743 100 mL 308-95741
Collagen Type I rat skin (pepsin solubilized collagen) 2mg/mL	1 mL 302-95761
Collagen Type I chicken skin (pepsin solubilized collagen) 2mg/mL	10 mL 305-95751
Collagen Type I tilapia skin (pepsin solubilized collagen) 3mg/mL	20 mL 309-95793 100 mL 303-95791
Collagen Type III bovine skin (pepsin solubilized collagen) 3mg/mL	5 mL 306-95781 20 mL 300-95784 100 mL 302-95783
Collagen Type IV bovine lens capsule (acid solubilized collagen) 0.5mg/mL	1 mL 300-95701
Collagen Powder Type I bovine skin (acid solubilized collagen)	100 mg 382-07371 500 mg 388-07373
Collagen Powder Type I bovine skin (pepsin solubilized collagen)	100 mg 383-07421 500 mg 389-07423
Collagen Powder Type I porcine skin (pepsin solubilized collagen)	100 mg 380-07431 500 mg 386-07433
Collagen Powder Skin Type porcine skin (pepsin solubilized collagen)	100 mg 387-07441 500 mg 383-07443
[Matrixome Inc.]	
iMatrix-511 Silk	175 µg × 6 387-10131
iMatrix-511 solution (0.5mg/ml)	175 µg × 2 385-07361 175 µg × 6 381-07363
[FUJIFILM Corporation]	
cellnest, recombinant peptide based on human collagen type I 0.1% solution	20 mL 635-30081
cellnest, recombinant peptide based on human collagen type I Lyophilized	100 mg 638-30071

We have launched DISPASE manufactured by Godo Shusei Co., Ltd. (Japan). It is a metallo protease that cleaves the N-terminal peptide bonds of neutral, non-polar amino acids. DISPASE rarely causes cell damage and is featured by gentle cell dispersion unlike the activity of protease such as trypsin or collagenase, leading to a practical use in a new field of ES or iPS cells for cell dispersion or passage.

Product Name	Package Size / Wako Cat. No.
DISPASE I (sterilized type, Enzyme activity: 10,000 – 13,000 PU/vial)	[Godo Shusei] 6 vials 386-02271
DISPASE II (unsterilized type, Enzyme activity: 300,000 – 360,000 PU/g)	[Godo Shusei] 1 g 383-02281
0.25w/v% Trypsin Solution with Phenol Red	100 mL 201-18841
0.05w/v% Trypsin-0.53mmol/l EDTA·4Na Solution with Phenol Red	100 mL 202-16931 500 mL 204-16935
0.5w/v% Trypsin-5.3mmol/l EDTA·4Na Solution without Phenol Red (×10)	100 mL 208-17251
0.5w/v% Trypsin-5.3mmol/l EDTA·4Na Solution with Phenol Red (×10)	100 mL 206-17291
0.25w/v% Trypsin-1mmol/l EDTA·4Na Solution with Phenol Red	100 mL 209-16941 500 mL 201-16945
Collagenase, recombinant, Animal-derived-free	240,000 units 036-23141
Collagenase	100 mg 038-22361 1 g 034-22363 5 g 032-22364
Collagenase Type I	100 mg 031-17601 500 mg 037-17603 1 g 035-17604
Collagenase Type V	100 mg 038-17851 1 g 032-17854
Collagenase Type X	100 mg 035-17861 1 g 039-17864
Collagenase Type A, Animal-derived-free	100 mg 038-24561 500 mg 034-24563
Trypsin-EDTA Solution without Phenol Red, AF	100 mL 203-20251 500 mL 205-20255