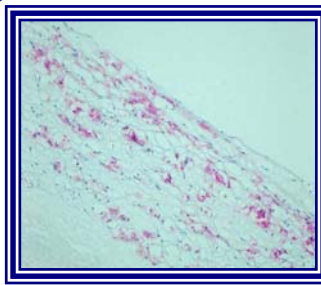


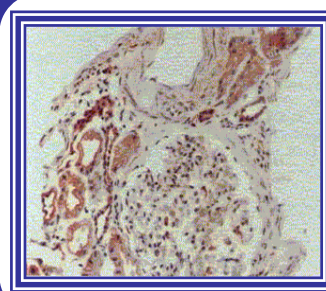
AGES (Advanced Glycation End Products) related Antibody

Increasing evidence points to the adverse effects of advanced glycation end product modified proteins on aging-related human health. AGE modified proteins result from the non-enzymatic glycosylation of glucose with free protein amino groups reaction of carbohydrates via Maillard reaction, including advanced product formation following Amadori rearrangements. AGE accumulation is thought to contribute to pathological changes resulting in cataract formation, Alzheimer's disease, osteoarthritis, and myocardial dysfunction. Diabetes (hyperglycemia) is associated with accelerated of AGE formation.



Positive observation:
Human aorta atherosclerotic lesion
(Usage concentration 3 μg/mL)

Anti-CML monoclonal antibody(NF-1G) has a ten times better sensibility than a former Anti-CML monoclonal antibody (CMS-10). This antibody is a monoclonal that very specific to CML and don't recognize CEL and very useful for localized analysis in immunohistochemistry.



Renal proximal tubule and glomerulus in patients with diabetic nephropathy

Yamada, K. et al,
Clinical nephrology, Vol.42, 354-361, 1994

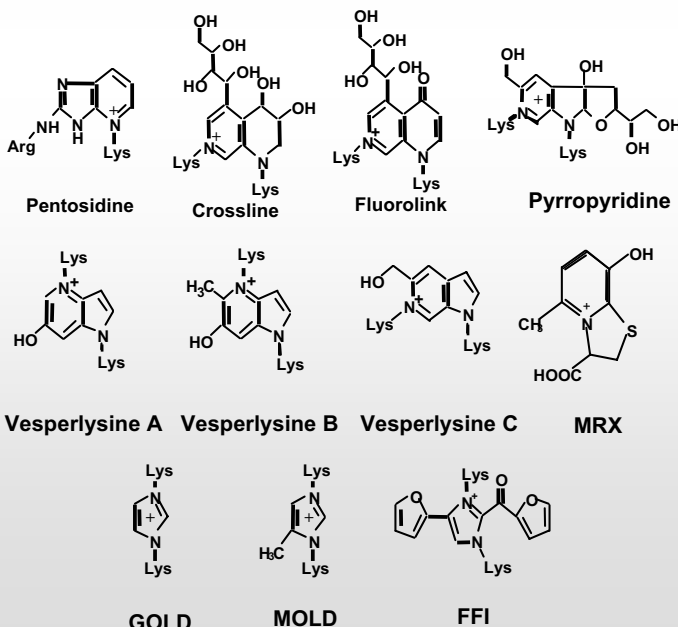
Result of a anti AGEs antibody analysis, shows that AGEs accumulates the following parts of (1) human lens (nondiabetic and noncataractous), (2) renal proximal tubules in patients with diabetic nephropathy and chronic renal failure,(3) diabetic retina, (4) peripheral nerves of diabetic neuropathy, (5) atherosclerotic lesions of arterial walls, (6) β 2-microglobulin forming amyloid fibrils in patients with hemodialysis-related amyloidosis, (7) senile plaques of patients with Alzheimer's disease, (8) the peritoneum of CAPD patients, (9) skin elastin in actinic elastosis, and (10) ceroid/lipofuscin deposits.

These evidence suggests that AGEs is deeply involved with aging itself and chronic disease caused by an aging, and several AGE structure give emphasis to diabetes and brain disease field category.

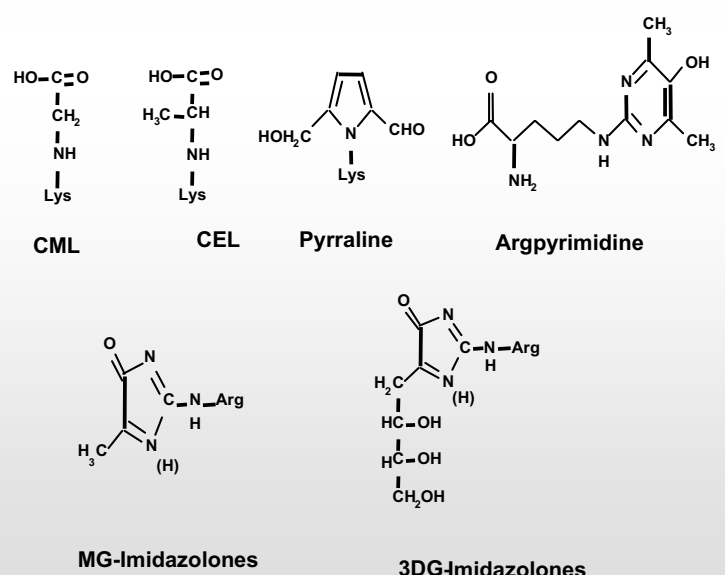
Various antibody currently proposed as AGEs is CML,CEL, Pentosidine, Pyrraline, Imidazolone, Crossline and others.

【AGEs structures】

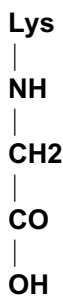
<Fluorescent /Crosslinked>



<Non-Fluorescent / Non-Crosslinked>



◆ Anti CML monoclonal antibody



N ε-(carboxymethyl)lysine (CML) is a major antigenic AGEs structure *in vivo* and is known to be generated from Oxidative cleavage of Amadori product. CML could become a marker of oxidative stress and long term damage to protein in aging, atherosclerosis, and diabetes.

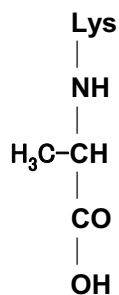
NF1G is a newly developed clone and have a better reaction.

NF1G is a monoclonal antibody specific for CML and useful for immunohistochemical staining to demonstrate the localization of CML in some pathological tissues.

Code	Label	Host	Clone	Size	Application
KAL-KH011	-	Mouse	CMS-10	50ug	IH, ELISA
KAL-KH011-01	Biotin	Mouse	CMS-10	50ug	IH, ELISA
KAL-KH011-02	Peroxidase	Mouse	CMS-10	50ug	IH, ELISA
KAL-KH024	-	Mouse	NF-1G	50ug	IH, ELISA
KAL-KH024-01	Biotin	Mouse	NF-1G	50ug	IH
KAL-KH024-02	Peroxidase	Mouse	NF-1G	50ug	IH

IH: Immunohistochemistry WB: Westernblotting

◆ Anti CEL monoclonal antibody

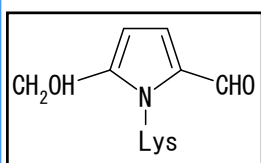


CEL is known to generate from protein modification by methylglyoxal.

It may play an important marker for aging and age-dependent disease such as diabetic complications.

Code	Label	Host	Clone	Size	Application
KAL-KH025	-	Mouse	KNH-30	50ug	IH, ELISA
KAL-KH025-01	Biotin	Mouse	KNH-30	50ug	IH, ELISA
KAL-KH025-02	Peroxidase	Mouse	KNH-30	50ug	IH, ELISA

◆ Anti Pyrraline monoclonal antibody

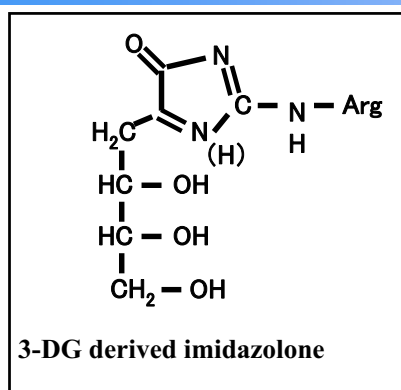


Pyrraline was detected in:

- sclerosed glomeruli from diabetic and normal old kidneys as well as in renal arteries with arteriosclerosis.
- neurofibrillary tangles and senile plaques in brain tissue from patients with Alzheimer's disease.

Code	Label	Host	Clone	Size	Application
KAL-KH010	-	Mouse	H12	20ug	IH, ELISA
KAL-KH010-01	Biotin	Mouse	H12	20ug	IH, ELISA
KAL-KH010-02	Peroxidase	Mouse	H12	20ug	IH, ELISA

◆ Anti 3-DG-imidazolone monoclonal antibody

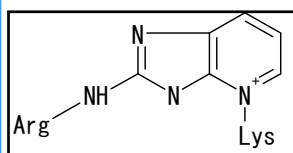


Imidazolone is one of AGEs structure, and has been shown that there are two pathways to generate. One is through 3-deoxyglucosone (3-DG) and another is through methylglyoxal. But it is not clear which pathway is dominant in each chronic disease.

This antibody is very useful for analyzing the involvement of imidazolone in the chronic disease.

Code	Label	Host	Clone	Size	Application
KAL-KH043	-	Mouse	JNH-27	50ug	IH

◆ Anti Pentosidine monoclonal antibody

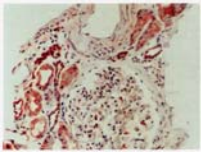


Pentosidine is one of the Maillard compounds identified by Monnier et al in 1989. It has been proved to cross-link Arginine to Lysine residue and be detected in β 2-microglobulin from patients with hemodialysis-related amyloidosis.

Code	Label	Host	Clone	Size	Application
KAL-KH012	-	Mouse	PEN-12	50ug	IH, ELISA
KAL-KH012-01	Biotin	Mouse	PEN-12	50ug	IH, ELISA
KAL-KH012-02	Peroxidase	Mouse	PEN-12	50ug	IH, ELISA

※KAL-KH012 cannot be exported to U.S.A. for patent issue.

◆ Anti AGEs (Advanced Glycation End Products) monoclonal antibody



Immunohistochemical staining of renal proximal tubules and glomeruli in patients with diabetic nephropathy, using anti-AGEs antibody 6D12.

Yamada, K. et al,
Clinical nephrology, Vol.42, 354-361, 1994



Immunohistochemical staining of the early stage of human atherosclerotic lesions of the aorta with anti-AGEs antibody 6D12.

Kume, S. et al,
American Journal of Pathology, Vol.147, 654-667, 1995

Code	Label	Host	Clone	Size	Application
KAL-KH001	-	Mouse	6D12	10ug	IH, WB, ELISA
KAL-KH001-01	Biotin	Mouse	6D12	10ug	IH, WB, ELISA
KAL-KH002	Peroxidase*	Mouse	6D12	20ug	IH, WB, ELISA
KAL-KH001-04	FITC	Mouse	6D12	10ug	IH, WB, ELISA

* Fab' fragment

◆ AGEs-BSA

The products of the nonenzymatic glycation and oxidation of proteins, lipids and nucleic acids, the advanced glycation end-products (AGEs), accumulate in various pathological conditions, such as diabetes, inflammation, renal failure, and aging. AGEs accumulate at site of microvascular injury in diabetes, including the kidney, the retina, and within the vasculature. The enhanced formation of AGEs also exists in various disease, such as atherosclerosis, Alzheimer's disease, end-stage renal disease (ESRD), rheumatoid arthritis and liver cirrhosis.

AGEs can arise not only from glucose, but also from dicarbonyl compounds, short chain-reducing sugars and other metabolic pathways of glucose. This was prepared from D-glucose and BSA.

Code	Size
KAL-KH001A	1mg

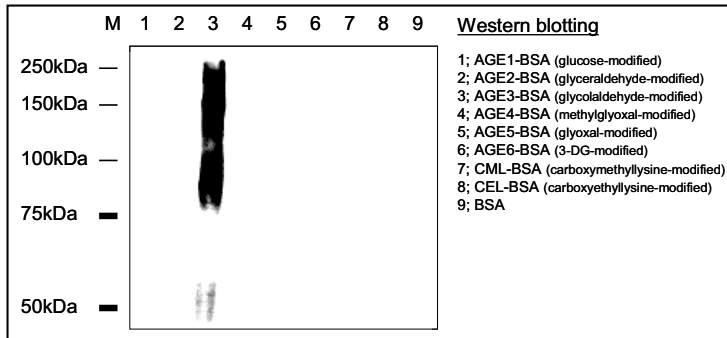
◆ Anti AGE-3 (Advanced Glycation End Products-3) monoclonal antibody



The products of the nonenzymatic glycation and oxidation of proteins, lipids and nucleic acids, the advanced glycation end-products (AGEs), accumulate in various pathological conditions, such as diabetes, inflammation, renal failure, and aging. AGEs accumulate at site of microvascular injury in diabetes, including the kidney, the retina, and within the vasculature. The enhanced formation of AGEs also exists in various disease, such as atherosclerosis, Alzheimer's disease, end-stage renal disease (ESRD), rheumatoid arthritis and liver cirrhosis.

AGEs can arise not only from glucose, but also from dicarbonyl compounds, short chain-reducing sugars and other metabolic pathways of glucose. Among AGEs, **glycolaldehyde-derived AGEs (named AGE-3)** have diverse toxic biological activities. AGE-3 significantly induces apoptotic cell death, DNA ladder formation and upregulates the secretory forms of VEGF mRNA levels in cultured bovine retinal pericytes. AGE-3 also decreases the viability and suppresses the replication rate in culterated rat Schwann cells, and attenuates cellular insulin sensitivity in 3T3-L1 cells. In human mesenchymal stem cells, AGE-3 increases the apoptotic cell and prevents cognate differentiation into adipose tissue, cartilage, and bone.

This antibody is specific to AGE-3 and will be useful to research for chronic diseases associated with aging and diabetic complications.



Code	Label	Host	Clone	Size	Application
KAL-KG122	-	Mouse	9D8	10ug	WB, ELISA

This product is generated from GANP® mice.



High-Affinity Antibody Technology GANP® mice Antibody



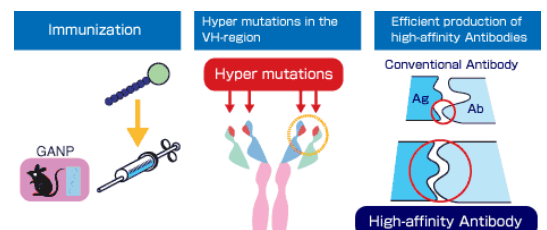
Novel technology for producing High-affinity monoclonal antibodies (GANP® -mouse)

Our high-affinity antibody technology (GANP® technology) has been introduced in the *Journal of Immunology* 2005 Apr 15; 174(8): 4485-94.

Aspect

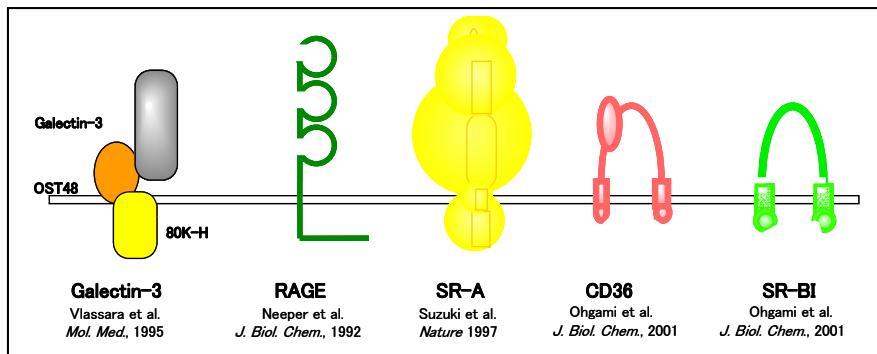
1, GANP gene and its technology (WO 2004/040971) were invented by Prof. N. Sakaguchi from Kumamoto University, and Immunokick Incorporation has their rights. TRANS GENIC INC. has obtained the exclusive licenses from Immunokick, and put them into business.

2, A GANP® -mouse is much-anticipated for applications in the fields of pharmaceutical products, diagnostic products, assay systems with antibodies, and research reagents, since they make it possible to produce monoclonal antibodies with remarkably higher affinities than it was possible then.

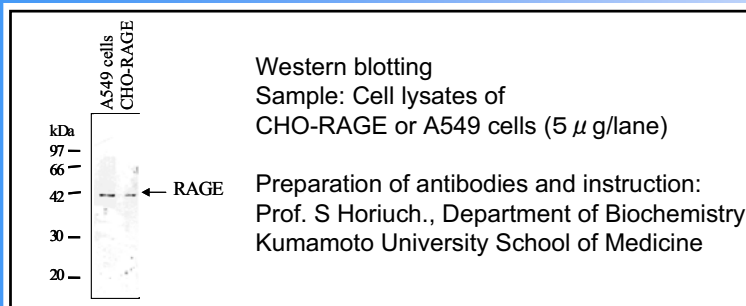




[AGEs receptors]



◆ Anti Human RAGE (Advanced Glycosylation End product-specific Receptor) polyclonal antibody

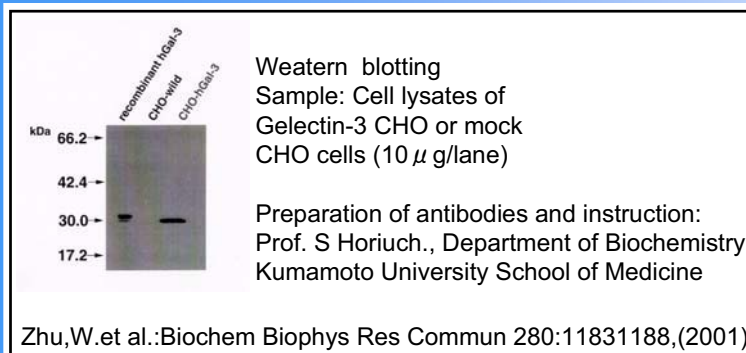


RAGE is the receptor of AGEs, advanced glycation end products with 35,000 molecular weight and was cloned from bovine lung in 1992 (David Stern et al.,).

It has been discovered that RAGE is involved in pathophysiological function of diabetes and Alzheimer's disease.

Code	Label	Host	Clone	Size	Application
KAL-KH039	-	Rabbit	-	100ug	WB

◆ Anti Human Galectin-3 polyclonal antibody



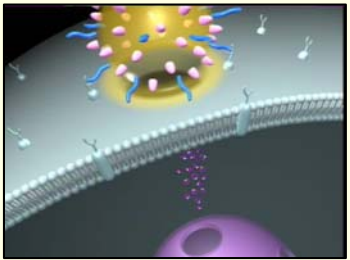
The galectins are a family of carbohydrate-binding proteins that are distributed widely in metazoan organisms. Many galectin family members are detected primarily intracellularly in most of the systems studied, although certain members can be found both inside and outside of cells.

It has been demonstrated that galectin-3 is a new member of AGEs-receptor complex. (Mol.Med.1:634-646,1995)

Code	Label	Host	Clone	Size	Application
KAL-KH040	-	Rabbit	-	100ug	WB

Are you interested in these products? → Innovative Transfection Kits

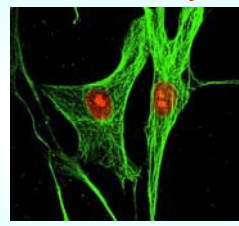
For DNA, siRNA, Protein Delivery
GenomONE-Neo EX



Allows TRANSFECTION of diverse molecules (siRNA, proteins etc.) in vitro and in vivo by means of MEMBRANE FUSION

For Antibody Delivery
GenomONE-Cab EX

Delivery of anti-α-tubulin antibody into HS68 cells



nucleus of each cell was stained with SYTO82 (red)

Optimized for ANTIBODY DELIVERY into LIVING CELLS

http://www.cosmobio.co.jp/export_e/products/cells/products_ISK_20070531.asp

Distributor



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Inspiration for Life Science

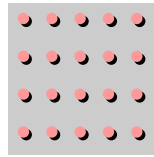
TOYO 2CHOME, KOTO-KU, TOKYO, 135-0016, JAPAN

<http://www.cosmobio.co.jp>

Phone : +81-3-5632-9617

e-mail : export@cosmobio.co.jp

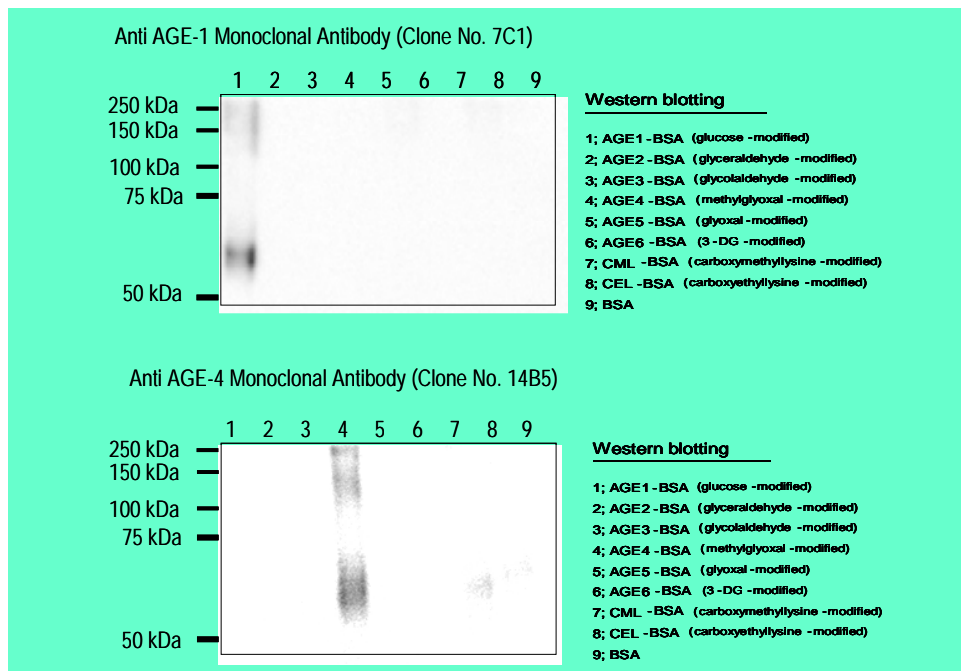
FAX : +81-3-5632-9618



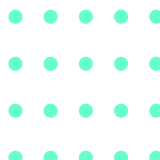
New Antibodies to AGE

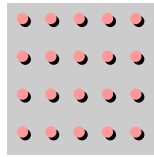
Anti AGE-1 Monoclonal Antibody (Clone No. 7C1) Anti AGE-4 Monoclonal Antibody (Clone No. 14B5)

The products of the nonenzymatic glycation and oxidation of proteins, lipids and nucleic acids, the advanced glycation end-products (AGEs), accumulate in various pathological conditions, such as diabetes, inflammation, renal failure, and aging. AGEs accumulate at site of microvascular injury in diabetes, including the kidney, the retina, and within the vasculature. The enhanced formation of AGEs also exists in various disease, such as atherosclerosis, Alzheimer's disease, end-stage renal disease (ESRD), rheumatoid arthritis and liver cirrhosis.



Description	Cat#	Host	Clone	Application	Size	Price
Anti AGE-1	KAL-KG132	Mouse	7C1	WB / ELISA	10ug	¥55000 / \$524 / €424
Anti AGE-4	KAL-KG133	Mouse	14B5	WB / ELISA	10ug	¥55000 / \$524 / €424





Anti Human RAGE Monoclonal Antibody (Clone No. 1C5)

RAGE (receptor for AGEs, advanced glycation end products) is an around 35 kDa multiligand receptor classified as an immunoglobulin superfamily cell surface molecule. RAGE is found in endothelium, smooth muscle cells, cardiac myocytes, neural tissue, and mononuclear cells and two major truncated forms of RAGE have been also identified (N-terminally truncated, C-terminally truncated). RAGE acts as a counter-receptor for not only AGEs, but also high-mobility group box1 (HMGB1), S100/calgranulins, and amyloid-peptides. Intracellular signaling pathways induced by RAGE include the activation of Cdc42/Rac, MAP kinase, NF- κ B. The C-terminally truncated soluble form of RAGE can bind ligands including AGEs and antagonize RAGE signaling in vitro and in vivo.

Anti Human RAGE Monoclonal Antibody (Clone No. 1C5)



Description	Cat#	Host	Clone	Application	Size	Price
Anti RAGE	KAL-KG134	Mouse	1C5	FCM / ICC / WB / ELISA	50ug	¥55000 / \$524 / €424



This product is generated from GANP® mice.

Distributor



COSMO BIO Co., LTD.

Inspiration for Life Science

TOYO 2CHOME, KOTO-KU, TOKYO, 135-0016, JAPAN

<http://www.cosmobio.co.jp>

e-mail : export@cosmobio.co.jp

Phone : +81-3-5632-9617

FAX : +81-3-5632-9618



AGE (Advanced Glycation End Products) related Antibody

Product Name	Label	Cat#	Clone	Quantity	Price
Anti CML monoclonal antibody	-	KAL-KH011	CMS-10	50ug	¥55,000 \$524 €424
	Biotin	KAL-KH011-01	CMS-10	50ug	¥70,000 \$667 €539
	Peroxidase	KAL-KH011-02	CMS-10	50ug	¥70,000 \$667 €539
	-	KAL-KH024	NF-1G	50ug	¥55,000 \$524 €424
	Biotin	KAL-KH024-01	NF-1G	50ug	¥70,000 \$667 €539
	Peroxidase	KAL-KH024-02	NF-1G	50ug	¥70,000 \$667 €539
Anti CEL monoclonal antibody	-	KAL-KH025	KNH-30	50ug	¥55,000 \$524 €424
	Biotin	KAL-KH025-01	KNH-30	50ug	¥70,000 \$667 €539
	Peroxidase	KAL-KH025-02	KNH-30	50ug	¥70,000 \$667 €539
Anti Pyrraline monoclonal antibody	-	KAL-KH010	H12	20ug	¥55,000 \$524 €424
	Biotin	KAL-KH010-01	H12	20ug	¥70,000 \$667 €539
	Peroxidase	KAL-KH010-02	H12	20ug	¥70,000 \$667 €539
Anti 3-DG-imidazolone monoclonal antibody	-	KAL-KH043	JNH-27	50ug	¥55,000 \$524 €424
Anti Pentosidine monoclonal antibody	-	KAL-KH012	PEN-12	50ug	¥55,000 \$524 €424
	Biotin	KAL-KH012-01	PEN-12	50ug	¥70,000 \$667 €539
	Peroxidase	KAL-KH012-02	PEN-12	50ug	¥70,000 \$667 €539
Anti AGEs (Advanced Glycation End Products) monoclonal antibody	-	KAL-KH001	6D12	10ug	¥55,000 \$524 €424
	Biotin	KAL-KH001-01	6D12	10ug	¥70,000 \$667 €539
	Peroxidase	KAL-KH002	6D12	20ug	¥70,000 \$667 €539
	FITC	KAL-KH001-04	6D12	10ug	¥70,000 \$667 €539
AGEs-BSA	-	KAL-KH001A	-	1mg	¥70,000 \$667 €539
Anti AGE-3 (Advanced Glycation End Products-3) monoclonal antibody	-	KAL-KG122	9D8	10ug	¥55,000 \$524 €424

