

AGEs Antibody

Antibodies to Advanced Glycation End (AGE) Products

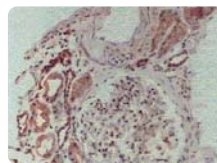
The products of the nonenzymatic glycation and oxidation of proteins, lipids and nucleic acids, the advanced glycation end-products (AGEs), accumulate in various pathological conditions, such as diabetes, inflammation, renal failure, and aging. AGEs accumulate at site of microvascular injury in

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.

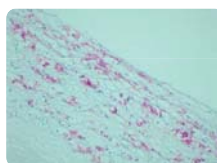
Result of an anti AGEs antibody analysis show that AGEs accumulate in: human lens (nondiabetic and noncataractous), renal proximal tubules in patients with diabetic nephropathy and chronic renal failure, diabetic retina, peripheral nerves of diabetic neuropathy, atherosclerotic lesions of arterial walls, β 2-microglobulin forming amyloid fibrils in patients with hemodialysis-related amyloidosis, senile plaques of patients with Alzheimer's disease, the peritoneum of CAPD patients, skin elastin in actinic elastosis, and ceroid/lipofuscin deposits.

This evidence suggests that AGEs are deeply involved with aging itself and in chronic diseases caused by aging, and that certain AGE structures contribute to diabetes and brain disease.

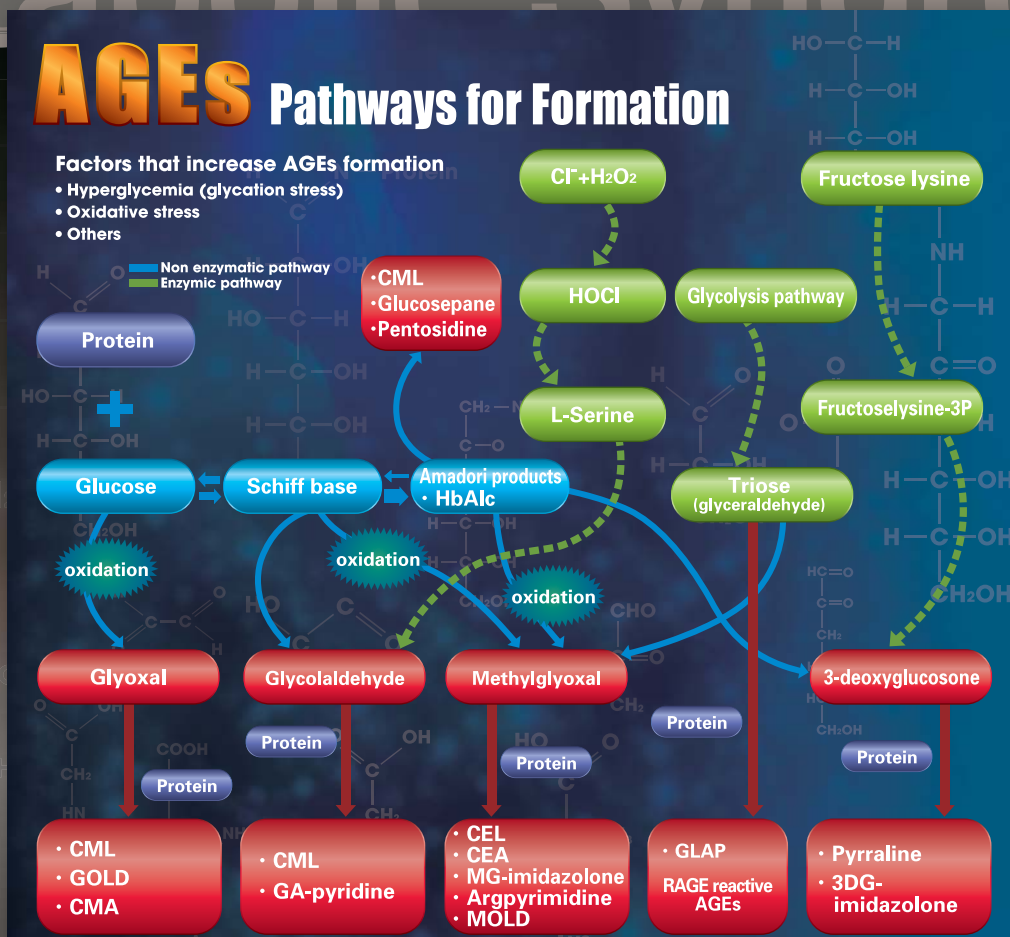
Structures currently proposed as AGEs include CML, CEL, pentosidine, pyrraline, imidazalone, crossline, and others.



IHC staining of renal proximal tubules and glomeruli in patients with diabetic nephropathy (Cat. No. KAL-KH001) Yamada, K. *et al*, *Clinical nephrology*, Vol.42, 354-361, 1994



Anti-CML monoclonal antibody, NF-1G has a ten fold increased sensitivity over CMS-10. NF-1G has a high specificity for CML with little or no cross reaction with CEL making it ideal for immunohistochemistry. IHC staining of Human aorta atherosclerotic lesion (Cat. No. KAL-KH024)

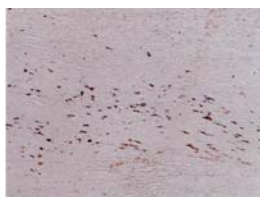


AGEs Antibody

AGEs / Metabolic Syndrome

Anti AGEs (Advanced Glycation End Products) monoclonal antibody

Anti-AGE monoclonal antibody, clone 6D12, has applications for immunohistochemistry, biochemical quantification and other immunoassays.



IHC staining of the early stage of human atherosclerotic lesions of the aorta.

Host	Clone	Label	Application	Cat. No.	Size
Mouse	6D12	-	ELISA, IHC, WB	KAL-KH001	10 µg
Mouse	6D12	Biotin	ELISA, IHC	KAL-KH001-01	10 µg
Mouse	6D12	Peroxidase	ELISA, IHC, WB	KAL-KH001-02	20 µg

AGEs-BSA

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

Host	Clone	Label	Application	Cat. No.	Size
-	-	-	(Antigen)	KAL-KH001-A	1 mg/ml

Anti AGE-3 monoclonal antibody

Among AGEs, glycolaldehyde-derived AGEs (referred to as 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 cultered rat Schwann cells, and attenuates cellular insulin sensitivity in 3T3-L1 cells. In human mesenchymal stem cells, AGE-3 increases the apoptosis cell and prevents cognate differentiation into adipose tissue, cartilage, and bone.

Host	Clone	Label	Application	Cat. No.	Size
Mouse	9D8	-	ELISA, WB	KAL-KG122	10 µg

Anti AGE-4 monoclonal antibody

Methylglyoxal (MG) increases in diabetes and can modify proteins rapidly and form AGE-4. It has been showed that exogenously added MG has a strong synergistic effect on TNF-induced cell death and AGE-4 is formed during TNF-induced cell in death mouse L929 cell, and that increased MG and AGE-4 levels induce apoptosis in mycobacterial-infected macrophages. It also has been demonstrated that MG rapidly modifies the PTP covalently and stabilizes the PTP in the closed conformation in rat liver mitochondria. Moreover, it has been showed that an increase in intracellular MG concentration inhibit the insulin signaling pathway and leads to an insulin-resistant state in L6 muscle cells.

Host	Clone	Label	Application	Cat. No.	Size
Mouse	14B5	-	ELISA, WB	KAL-KG133	10 µg

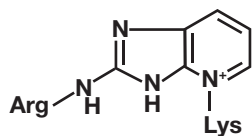
Anti AGE-1 monoclonal antibody

It has been showed that **glucose-derived AGEs (named AGE-1)** causes apoptotic cell death and induces hyperfiltration and microalbuminuria by stimulating secretion of VEGF and MCP-1 proteins in the human mesangial cells. Therefore, AGE-1 may be involved in the pathogenesis of the early stage of diabetic nephropathy.

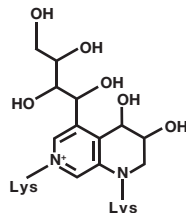
Host	Clone	Label	Application	Cat. No.	Size
Mouse	7C1	-	ELISA, WB	KAL-KG132	10 µg

Fluorescent / Crosslinked

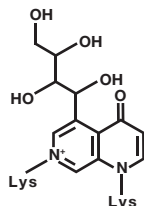
Pentosidine



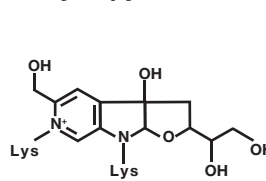
Crossline



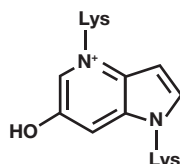
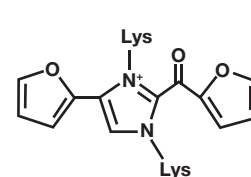
Fluorolink



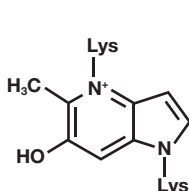
Pyrropyridine



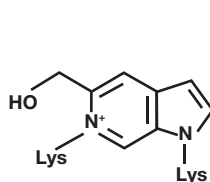
FFI



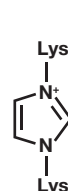
Vesperlysine A



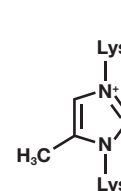
Vesperlysine B



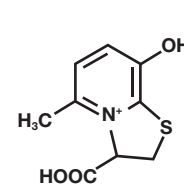
Vesperlysine C



GOLD



MOLD



MRX

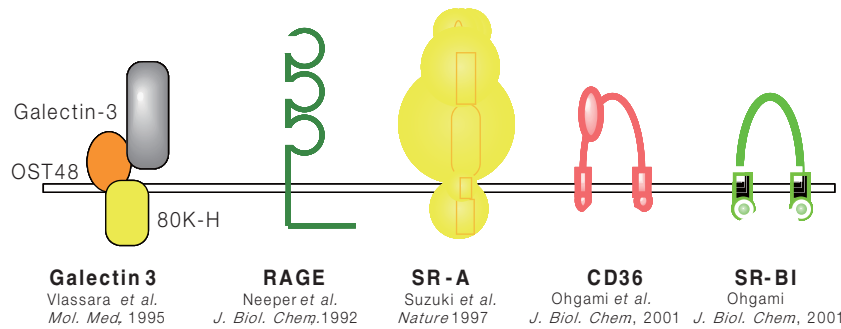
Anti Pentosidine Monoclonal Antibody

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. * We can not export this products to U.S.A

Host	Clone	Label	Application	Cat. No.	Size
Mouse	PEN-12	-	ELISA, IHC	KAL-KH012	50 µg
Mouse	PEN-12	Biotin	ELISA, IHC	KAL-KH012-01	50 µg
Mouse	PEN-12	Peroxidase	ELISA, IHC	KAL-KH012-02	50 µg



AGEs receptors



Anti Human Galectin-3 Polyclonal Antibody

Galectins are a family of soluble β -galactoside-binding lectins that play many important regulatory roles in inflammation, immunologic response, and cancer. Galectin-3 has been implicated as an AGE receptor.

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

Host	Clone	Label	Application	Cat. No.	Size
Rabbit	-	-	WB	KAL-KH040	100 μ g

Anti Human RAGE Polyclonal Antibody

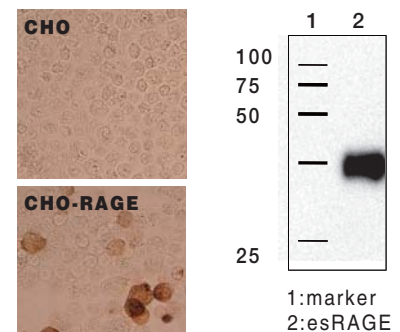
Receptor for advanced glycation end products (RAGE) is a 35 kD transmembrane receptor for AGEs linked to several chronic diseases that are thought to arise from vascular damage. Examples of related disease include arteriosclerosis, cardiovascular disease, Alzheimer's disease and complications from diabetes such as neuropathy, nephropathy and retinopathy.

Host	Clone	Label	Application	Cat. No.	Size
Rabbit	-	-	WB	KAL-KH039	100 μ g

Anti Human RAGE Monoclonal Antibody

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*. RAGE plays important role for inflammation, diabetes, diabetic complications such as nephropathy, vascular injury and Alzheimer's disease. Several clinical studies have demonstrated that the strong association of RAGE expression with malignant potential of various cancers. It has been showed that engagement of RAGE by HMGB1 plays an important role in regulating the tumor formation, growth, metastasis. It is also suggested that glyceraldehyde- and glycolaldehyde-derived AGEs may be significantly involved in the growth and invasion of melanoma through interactions with RAGE.

Host	Clone	Label	Application	Cat. No.	Size
Mouse	1C5	-	WB, ELISA, IC, FC	KAL-KG134	50 μ g



Immunocytochemistry data:
Human RAGE-transfected CHO cells

Anti Human Adiponectin Receptor 1 Polyclonal Antibody

The beneficial adipocytokine adiponectin displays both anti-diabetic and anti-arteriosclerotic effects. Two distinct adiponectin receptors have been identified. Both AdipoR1 and AdipoR2 are seven-pass transmembrane receptors but are structurally, topologically, and functionally distinct from G-protein coupled receptors (GPCR).

Host	Clone	Label	Application	Cat. No.	Size
Rabbit	-	-	WB	KAL-KG114	100 μ g

Anti Human Adiponectin Receptor 2 Polyclonal Antibody

Host	Clone	Label	Application	Cat. No.	Size
Rabbit	-	-	WB	CAC-CNP-ADIPOR2-150	100 μ l

Anti Human PPAR γ Polyclonal Antibody

PPARs (peroxisome proliferator-activated receptors) are a family of transcription factors belonging to the nuclear hormone receptor superfamily. Widely expressed in vertebrates, PPARs play critical roles in metabolism and differentiation of a number of cell types.

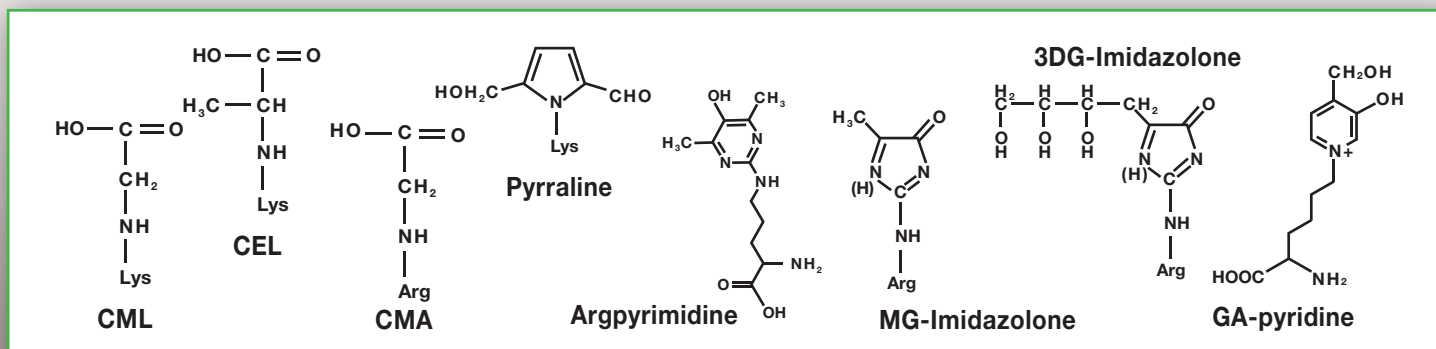
Host	Clone	Label	Application	Cat. No.	Size
Rabbit	-	-	WB	KAL-KG113	100 μ g

Anti Human β 3-AR Polyclonal Antibody

β 3-receptors are particularly abundant in brown adipocytes and play important roles in lipolysis and thermoregulation. Recently this receptor has received attention from researchers interested in type 2 diabetes mellitus and obesity. It is also being considered as a therapeutic target for heart failure.

Host	Clone	Label	Application	Cat. No.	Size
Rabbit	-	-	WB	KAL-KG115	100 μ g

Non-Fluorescent / Non-Crosslinked



Anti CML Monoclonal Antibody

N ϵ -(carboxymethyl)lysine (CML) is a major antigenic AGEs structure *in vivo* formed by oxidative cleavage of Amadori products between C-2 and C-3 of the carbohydrate chain. CML is a marker of oxidative stress and long term damage to protein in aging, atherosclerosis, and diabetes.

NF1G is a newly developed monoclonal antibody clone with increased sensitivity and specificity over previous clones. NF1G allows sensitive detection of CML during immunohistochemical staining of pathological tissues.

Host	Clone	Label	Application	Cat. No.	Size
Mouse	CMS-10	-	ELISA, IHC	KAL-KH011	50 μ g
Mouse	CMS-10	Biotin	ELISA, IHC	KAL-KH011-01	50 μ g
Mouse	CMS-10	Peroxidase	ELISA, IHC	KAL-KH011-02	50 μ g
Mouse	NF-1G	-	ELISA, IHC	KAL-KH024	50 μ g
Mouse	NF-1G	Biotin	IHC	KAL-KH024-01	50 μ g
Mouse	NF-1G	Peroxidase	IHC	KAL-KH024-02	50 μ g
Mouse	2G12	-	ELISA, IHC, WB	CAC-AGE-M01	100 μ l

Anti CMA Monoclonal Antibody

N ω -(carboxymethyl) arginine (CMA), a CML analogue, is an acid-labile AGE structure which was discovered in enzymatic hydrolysate of glycated collagen. CMA is preferentially generated in glycated collagen.

Host	Clone	Label	Application	Cat. No.	Size
Mouse	3F5	-	ELISA, IHC, WB	CAC-AGE-M04	100 μ l

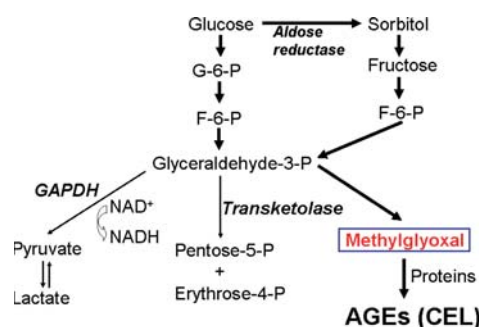
Anti Pyrrole Monoclonal Antibody

Pyrrole is one of the major Maillard compounds resulting from the reaction of glucose with amino compounds at slightly acidic pH. Pyrrole is associated with diabetes, arteriosclerosis and Alzheimer's disease.

Host	Clone	Label	Application	Cat. No.	Size
Mouse	H12	-	ELISA, IHC	KAL-KH010	20 μ g
Mouse	H12	Biotin	ELISA, IHC	KAL-KH010-01	20 μ g
Mouse	H12	Peroxidase	ELISA, IHC	KAL-KH010-02	20 μ g

Anti CEL Monoclonal Antibody

N ϵ -(carboxyethyl) lysine (CEL) is formed by reaction of intracellular methylglyoxal with lysine residues and is an important marker for age-dependent disease such as cardiovascular disease in diabetic patients.



Host	Clone	Label	Application	Cat. No.	Size
Mouse	KNH-30	-	ELISA, IHC	KAL-KH025	50 μ g
Mouse	KNH-30	Biotin	ELISA, IHC	KAL-KH025-01	50 μ g
Mouse	KNH-30	Peroxidase	ELISA, IHC	KAL-KH025-02	50 μ g
Mouse	CEL-SP	-	ELISA, IHC, WB	CAC-AGE-M02	100 μ l

Anti 3-DG-imidazolone Monoclonal Antibody

Imidazolone is an AGE structure present in erythrocytes, renal tissue and aortic walls of diabetic patients. Imidazolone is formed in tissues through reaction of proteins with deoxyglucosone (3DG) or methylglyoxal.

Host	Clone	Label	Application	Cat. No.	Size
Mouse	JNH-27	-	IHC	KAL-KH043	50 μ g

Anti GA-pyridine Monoclonal Antibody

Glycolaldehyde formed as a result of the myeloperoxidase-H₂O₂ (MPO) reaction can react with proteins to yield various AGEs. Recently, a novel specific GA-derived AGE, called GA-pyridine, has been described in foam cells and the extracellular matrix of human atherosclerotic fibrotic lesions, glomerular mesangial and Bruch's membrane and choroid.

Host	Clone	Label	Application	Cat. No.	Size
Mouse	2A2	-	ELISA, IHC, WB	CAC-AGE-M03	100 μ l

