



For research use only

Advanced Glycation End Products (AGEs)

Anti AGE-3 Monoclonal Antibody (Clone No. 9D8)

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 cultered 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.

Package Size	10 µg (40µL/vial)
Format	Mouse monoclonal antibody 0.25mg/mL
Buffer	PBS [containing 2% Block Ace as a stabilizer, 0.1%Proclin as a bacteriostat]
Storage	Store below -20°C Once thawed, store at 4°C. Repeated freeze-thaw cycles should be avoided.
Clone No.	9D8
Subclass	IgG1
Purification method	The spleen cells from GANP mouse, immunized with glycolaldehyde-modified BSA (AGE-3), were fused to myeloma P3U1 cells. The screening of the hybridoma cells was performed on ELISA. The cell line with positive reaction was grown on non-serum medium, from which the antibody was purified by Protein G affinity chromatography.
Working dilution	For Western blotting : 1.0 µg/mL For ELISA: 0.1 µg/mL





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【Reference】

1. Yamagishi S, Amano S, Inagaki Y, Okamoto T, Koga K, Sasaki N, Yamamoto H, Takeuchi M, Makita Z., Advanced glycation end products-induced apoptosis and overexpression of vascular endothelial growth factor in bovine retinal pericytes., *Biochem Biophys Res Commun.* 2002 Jan 25;290(3):973-8.
2. Sekido H, Suzuki T, Jomori T, Takeuchi M, Yabe-Nishimura C, Yagihashi S., Reduced cell replication and induction of apoptosis by advanced glycation end products in rat Schwann cells., *Biochem Biophys Res Commun.* 2004 Jul 16;320(1):241-8.
3. Kume S, Kato S, Yamagishi S, Inagaki Y, Ueda S, Arima N, Okawa T, Kojiro M, Nagata K., Advanced glycation end-products attenuate human mesenchymal stem cells and prevent cognate differentiation into adipose tissue, cartilage, and bone., *J Bone Miner Res.* 2005 Sep;20(9):1647-58. Epub 2005 May 23.
4. Unoki H, Bujo H, Yamagishi S, Takeuchi M, Imaizumi T, Saito Y., Advanced glycation end products attenuate cellular insulin sensitivity by increasing the generation of intracellular reactive oxygen species in adipocytes., *Diabetes Res Clin Pract.* 2007 May;76(2):236-44. Epub 2006 Nov 13.
5. Yamamoto Y, Yonekura H, Watanabe T, Sakurai S, Li H, Harashima A, Myint KM, Osawa M, Takeuchi A, Takeuchi M, Yamamoto H., Short-chain aldehyde-derived ligands for RAGE and their actions on endothelial cells., *Diabetes Res Clin Pract.* 2007 Apr 24; [Epub ahead of print]

Additional: Anti AGEs related monoclonal antibodies available from TRANSGENIC INC.

KH001	Anti AGE Monoclonal Antibody (Clone No.6D12)
KH010	Anti Pyrraline Monoclonal Antibody (Clone No.H12)
KH011	Anti CML Monoclonal Antibody(Clone No.CMS-10)
KH012	Anti Pentosidine Monoclonal Antibody (Clone No. PEN-12)
KH024	Anti CML Monoclonal Antibody (Clone No. NF-1G)
KH025	Anti CEL Monoclonal Antibody (Clone No. KNH-30)
KH043	Anti 3-DG-imidazolone Monoclonal Antibody (Clone No. JNH-27)

Manufacturer



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Previous manufacturer



TransGenic Inc.

