



Code No.KAL-KG122

For research use only

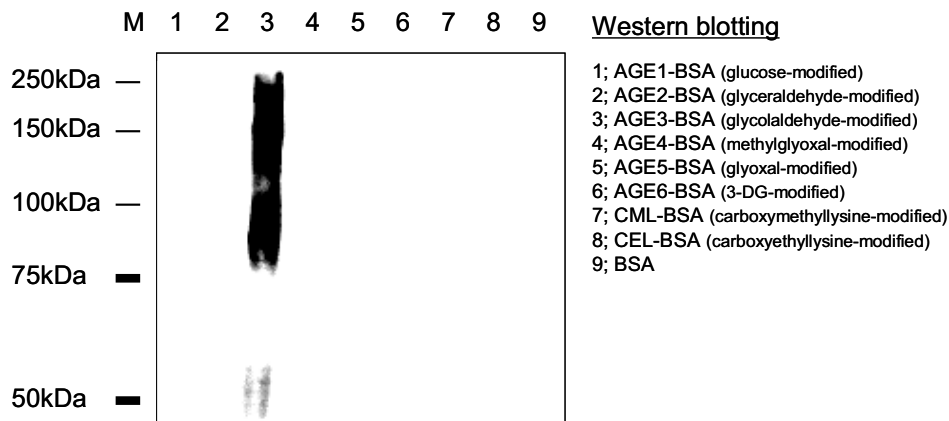
Advanced Glycation End Products (AGEs)
Anti AGE-3 Monoclonal Antibody (Clone No. 9D8)

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)

Distributor



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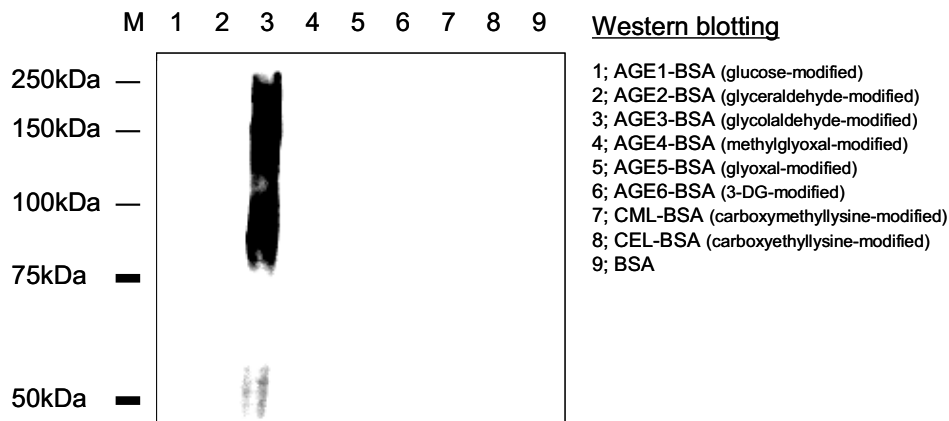
Advanced Glycation End Products (AGEs)
抗 AGE-3 モノクローナル抗体 (Clone No. 9D8)

AGEs (Advanced Glycation End Products; 終末糖化産物) はグルコースなどの還元糖とタンパク質、脂質、核酸といった生体分子との間の非酵素的糖化反応で生成され、糖尿病、炎症、腎不全といった疾患や老化に伴い蓄積します。AGEs は、糖尿病網膜症や腎症といった糖尿病血管合併症の発症・進展に強く関与しています。さらに AGEs は、動脈硬化症、アルツハイマー病、末期腎不全、関節リウマチ、肝硬変などの様々な疾患で増加します。AGEs は、グルコースに由来するだけでなく、ジカルボニル化合物、糖の自動酸化物、糖代謝中間体などからも生成されます。

AGEs のうち、グリコールアルデヒド由来 AGE-3 は、種々の疾病の発症・進展に非常に密接に関与していると考えられています。培養ウシ網膜周皮細胞において、AGE-3 は、アポトーシスを誘導し、血管内皮増殖因子 (VEGF) の発現を増加させます。また、AGE-3 は、培養ラットシュワン細胞の増殖を抑制するほか、培養前駆脂肪細胞株 3T3-L1 細胞のインスリン感受性を低下させます。さらに、AGE-3 はヒト間葉系幹細胞のアポトーシスを誘導し、脂肪細胞、軟骨、骨への分化を阻害します。

本抗体は AGE-3 に特異的な抗体であり、加齢に伴う慢性疾患や糖尿病関連疾病などの研究に有用であると思われます。

容量	10 µg (40 µL/vial)
形状	マウスモノクローナル抗体 0.25mg/mL、凍結品
バッファー	PBS [2%ブロッケーヌ(安定化タンパク質) 0.1%Proclin 含有]
保管方法	-20°C以下 抗体を低濃度にて冷蔵保存されますと、失活する恐れがあります。 融解後は4°Cで保存し、お早めにご使用下さい。 また凍結融解を繰り返すことは避けて下さい。
クローン番号	9D8
サブクラス	IgG1
製造方法	グリコールアルデヒド由来 AGE-3 (glycolaldehyde-modified BSA) で免疫した GANP マウスの脾臓細胞とマウスミエローマ P3U1 を融合して得られたハイブリドーマから抗原に反応性を示すクローンを選択。得られたクローンを無血清培地で培養し、Protein G アフィニティーカラムにて精製。
使用濃度	ウエスタンブロットティング: 1.0 µg/mL ELISA: 0.1 µg/mL





人と科学のステキな未来へ

コスモ・バイオ株式会社



Code No.KG122

研究用試薬

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抗 AGE-3 モノクローナル抗体 (Clone No. 9D8)

【参考文献】

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.
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弊社 AGEs 関連モノクローナル抗体ラインナップ

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This product is generated from GANP® mice.

