For Research Use Only, Not for use in diagnostic procedures

Glyoxal-AGE-BSA

Cat# CY-R2064

Sterile condition

Lot No.

(1 mg/mL x 200 µL)

Background: Reducing sugars react with protein amino groups to form a diverse group of protein-bound moieties with fluorescent and cross-linking properties. These compounds, called advanced glycosylation end products (AGEs), have been implicated in the structural and functional alterations of proteins that occur during aging and long-term diabetes. Although several AGE structures have been reported (1, 2), N^{ε}-(Carboxymethyl)lysine (CML) and N^{ε}-(Carboxyethyl)lysine (CEL) are two major stable, nonenzymatic chemical modifications of protein lysine residues resulting from glycation and oxidation reactions, However it has been proposed that AGE are not only created from glucose per se, but also from dicarbonyl compounds derived from glycation, sugar autoxidation, and sugar metabolism. It was demonstrated that various types of AGE, non-enzymatically glycated protein derivatives formed at an accelerated rate in diabetes (3), not only inhibit DNA synthesis but also induce apoptotic cell death in human mesangial cells (4).

Product Description: glyoxal-AGE-BSA was prepared according to the method described in Takeuchi M et al. (5).

Product Size: 200 µL x 1 mg/mL glyoxal-AGE-BSA

Formulation: The glyoxal-AGE-BSA is supplied frozen in 10mM PBS (pH 7.2).

Storage and Stability: Stable for 12 months at -20°C from date of shipment. For maximum recovery of product, centrifuge the original vial after thawing and prior to removing the cap. Aliquot glyoxal-AGE-BSA to avoid repeated freezing and thawing.

References:

1. Ikeda K, Higashi T, Sano H, Jinnouchi Y, Yoshida M, Araki T, Ueda S, Horiuchi S: *Biochemistry* **35:** 8075 –8083,1996

2. Reddy S, Bichler J, Wells-Knecht KJ, Thorpe SR, Baynes JW: *Biochemistry* **34:** 10872 –10878,1995

3. Takeuchi, M., Bucala, R., Suzuki, T., Ohkubo, T., Yamazaki, M., Koike, T., Kameda, Y., and Makita, Z. *J. Neuropathol. Exp. Neurol*. **59:** 1094-1105, 2000

4. Yamagishi S, Inagaki Y, Okamoto T, Amano S, Koga K, Takeuchi M, Makita Z. Advanced glycation end product-induced apoptosis and overexpression of vascular endothelial growth factor and monocyte chemoattractant protein-1 in human-cultured mesangial cells. *J Biol Chem.* **277**(23):20309-15, 2002

5. Takeuchi M, Makita Z, Bucala R, Suzuki T, Koike T, Kameda Y Immunological evidence that non-carboxymethyllysine advanced glycation end-products are produced from short chain sugars and dicarbonyl compounds in vivo. *Mol Med.* **6:** 114-25, 2000

6. R Nagai, K Matsumoto, X Ling, H Suzuki, T Araki, and S Horiuchi: *Diabetes*, **49:** 1714 – 1723, 2000

Related Products

*** CML-BSA/N$^{\varepsilon}$-(Carboxymethyl)lysine-BSA: Cat# CY-R2052**
*** CML-OVA/N$^{\varepsilon}$-(Carboxymethyl)lysine-OVA: Cat# CY-R2053**
*** CEL-BSA/N$^{\varepsilon}$-(Carboxyethyl)lysine-BSA: Cat# CY-R2054**
*** CEL-OVA/N$^{\varepsilon}$-(Carboxyethyl)lysine-OVA: Cat# CY-R2055**
*** Glucose-AGE-BSA: Cat# CY-R2056**
*** Glucose-AGE-OVA: Cat# CY-R2057**
*** Glyceraldehyde-AGE-BSA: Cat# CY-R2058**
*** Glyceraldehyde-AGE-OVA: Cat# CY-R2059**
*** Glycolaldehyde-AGE-BSA: Cat# CY-R2060**
*** Glycolaldehyde-AGE-OVA: Cat# CY-R2061**
*** Methylglyoxal-AGE-BSA: Cat# CY-R2062**
*** Methylglyoxal-AGE-OVA: Cat# CY-R2063**
*** Glyoxal-AGE-BSA: Cat# CY-R2064**
*** Glyoxal-AGE-OVA: Cat# CY-R2065**
*** CML-HSA/N$^{\varepsilon}$-(Carboxymethyl)lysine-HSA: Cat# CY-R2066**
*** CEL-HSA/N$^{\varepsilon}$-(Carboxyethyl)lysine-HSA: Cat# CY-R2067**

PRODUCED BY

CycLex Co., Ltd.
1063-103 Terasawaoka
Ina, Nagano 396-0002
Japan
Fax: +81-265-76-7618
e-mail: info@cyclex.co.jp
URL: http://www.cyclex.co.jp