

For Research Use Only, Not for use in diagnostic procedures

Glucose-AGE-OVA

Cat# CY-R2057

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 glycosylated 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: glucose-AGE-OVA was prepared according to the method described in Ikeda K et al. (1).

Product Size: 200 µL x 1 mg/mL glucose-AGE-OVA

Formulation: The glucose-AGE-OVA is supplied frozen in a buffer containing 10mM PBS (pH 7.2).

Specificity: glucose-AGE-OVA can be detected by N^ε-(Carboxymethyl)lysine antibody (Cat# CY-M1028 Anti-CML /N^ε-(Carboxymethyl)lysine Monoclonal Antibody, MK-5A10).

Recommended concentration: Coating microtiter plate for competitive ELISA: 200-400 ng/mL.

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 glucose-AGE-OVA 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. (2000) *J. Neuropathol. Exp. Neurol.* 59, 1094-1105
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

Related Products

- * CML-BSA/N^ε-(Carboxymethyl)lysine-BSA: Cat# CY-R2052
- * CML-OVA/N^ε-(Carboxymethyl)lysine-OVA: Cat# CY-R2053
- * CEL-BSA/N^ε-(Carboxyethyl)lysine-BSA: Cat# CY-R2054
- * CEL-OVA/N^ε-(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^ε-(Carboxymethyl)lysine-HSA: Cat# CY-R2066
- * CEL-HSA/N^ε-(Carboxyethyl)lysine-HSA: Cat# CY-R2067

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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>

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