

OxiSelect Methylglyoxal (MG) ELISA Kit

OxiSelect Methylglyoxal (MG) Competitive ELISA Kit

CATALOG #
AAA44608

PRODUCT SYNONYMS

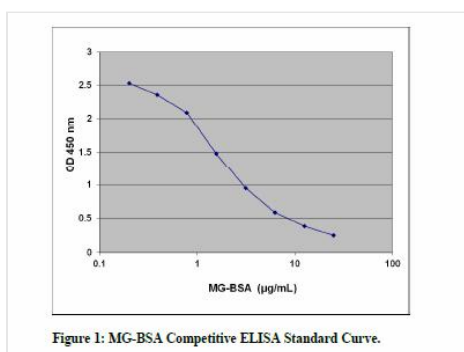
OxiSelect Methylglyoxal (MG); OxiSelect Methylglyoxal (MG) Competitive ELISA Kit; OxiSelect Methylglyoxal (MG) elisa kit

PRODUCT SPECIFICATIONS

Preparation and Storage

Upon receipt, aliquot and store the Anti-MG Antibody, MG-BSA Standard, MG Conjugate and 100X Conjugate Diluent at -20 degree C to avoid multiple freeze/thaw cycles. Store all other kit components at 4 degree C.

IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for OxiSelect Methylglyoxal (MG) elisa kit

Principle of the assay: First, an MG conjugate is coated on the ELISA plate. The unknown MG protein samples or MG-BSA standards are then added to the MG conjugate preabsorbed plate. After a brief incubation, the anti-MG antibody is added, followed by an HRP conjugated secondary antibody. The content of MG protein adducts in unknown samples is determined by comparison with the predetermined MG-BSA standard curve.

Background: The non-enzymatic reaction of reducing carbohydrates with lysine side chains and N-terminal amino groups of macromolecules (proteins, phospholipids and nucleic acids) is called the Maillard reaction or glycation. The products of this process, termed advanced glycation end products (AGEs), adversely affect the functional properties of proteins, lipids and DNA. Tissue levels of AGE increase with age and the formation of AGEs is predominantly endogenous, though these products can also be derived from exogenous sources such as food and tobacco smoke. AGE modification of proteins can contribute to the pathophysiology of aging and long-term complications of diabetes, atherosclerosis and renal failure. AGEs also interact with a variety of cell-surface AGE-binding receptors (RAGE), leading either to their endocytosis and degradation or to cellular activation and pro-oxidant or pro-inflammatory events. Several AGE structures have been reported, such as Nεpsilon-(carboxymethyl) lysine (CML), Nεpsilon-(carboxyethyl) lysine (CEL), pentosidine, and Methylglyoxal (MG) derivatives. MG is formed through non-oxidative mechanisms from triose phosphates during anaerobic glycolysis and it can modify amino acids, nucleic acids, and proteins. MG reacts with arginine, lysine and cysteine residues of proteins to form AGEs. MG is involved in various pathological processes. For example, MG derivatives are found elevated in diabetes. The OxiSelect Methylglyoxal (MG) ELISA Kit is an enzyme immunoassay developed for rapid detection and quantitation of MG-H1 (methyl-glyoxal-hydro-imidazolone) protein adducts. The quantity of MG adduct in protein samples is determined by comparing its absorbance with that of a known MG-BSA standard curve. Each kit provides sufficient reagents to perform up to 96 assays, including standard curve and unknown protein samples.

Product Categories/Family for OxiSelect Methylglyoxal (MG) elisa kit	Oxidative Stress/Damage; Protein Oxidation/Nitration; Advanced Glycation End Products; MG (Methylglyoxal) Assays and Reagents; Methylglyoxal (MG) Competitive ELISA
References	1. Shamshi F. A, Partal A, Sady C, Glomb M. A, Nagaraj R. H (1998) J Biol Chem 273:6928-6936. 2. Cai W, Gao Q. D, Zhu L, Peppas M, He C, Vlassara H. (2002), Mol Med. 8:337-46. 3. Monnier, V., and Cerami, A. (1981) Science 211, 491-493. 4. Ahmed M.U., Thorpe S.R., Baynes J.W (1986) J. Biol. Chem. 261, 4889-4894. 5. Reddy S., Bichler J., Wells-Knecht K.J., Thorpe S.R., Baynes J.W (1995) Biochemistry 34, 10872-10878. 6. Dunn, J. A., Patrick, J. S., Thorpe, S. R., and Baynes, J. W. (1989) Biochemistry 28, 9464-9466 7. Ahmed, M. U., Brinkmann-Frye, E., Degenhardt, T. P., Thorpe, S. R., and Baynes, J. W. (1997) Biochem. J. 324, 565-570. 8. Sell, D. R., and Monnier, V. M. (1989) J. Biol. Chem. 264, 21597-21602. 9. Onorato, J., Jenkins, A., Thorpe, S., and Baynes, J. (2000) J. Biol. Chem. 275, 21177-21184. 10. Boehm BO, Schilling S, Rosinger S, Lang GE, Lang GK, Kientsch-Engel P, Stahl P (2004) Diabetologia 47, 1376-1379. Morgan, P. E. et al. (2014). Perturbation of human coronary artery endothelial cell redox state and NADPH generation by methylglyoxal. PLoS One. 9:e86564.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/elisa-kits/oxiselect-methylglyoxal-mg/44608>