CREATIVE BIOMART®
Assay Kit

RAGE Reactive AGEs Assay Kit, Glyceraldehyde

Product Information

Cat.No. Kit-0061

Product Overview

1. This kit is designed to detect GA-AGE formed on BSA using recombinant Fc-RAGE as detection reagent.2. This kit will be useful not only for biomarker assessment and drug screening for drug development but also assessing the activity of functional foods and other ingested substances.

Description

Although carbohydrates are indispensable for ATP production, excess carbohydrates promote protein glycation. Protein glycation may result in irreversible changes to protein structure, net charge, and protein function with deleterious consequences. Protein glycation has been associated with diabetic complications, renal disorders, Alzheimer?s disease and others.First described Louis Camille Maillard in 1912, glycation is also referred to as the Maillard reaction. Maillard reactions are categorized into early and advanced stages. Early stage reactions generate Amadori rearrangement products such as haemoglobin A1c, whereas advanced stage reactions generate the so-called AGEs (advanced glycation end products) characterized by protein-crosslinking and color browning. Collagens, important structural proteins of skin, blood vessel walls and bone, are subject to glycation.Indeed, different types of receptors recognize AGEs as ligands. CD36, a scavenger receptor expressed on macrophages and vascular endothelial cells binds AGEs (mainly the CML form) and ox-LDL for clearing metabolic products resulting from oxidative stress. SR-A is also recognizes AGEs, Ox-LDL and Ac-LDL and this binding suggested a strong relationship between AGEs and arteriosclerotic diseases and diabetic nephropathy. The so-called RAGE receptor (Receptor for AGEs) was found and isolated in 1992 from bovine lung as 55kDa membranespanning protein. (1) RAGE expression is distributed. RAGE is present not only on monocytes and or macrophages but also on vascular smooth muscle cells, neurons, hepatocytes, and kidney mesangial cells. The function of AGE receptors are still unclear but have been suggested to effect signal transductions or the apoptosis process. RAGE itself does not bind binds to AGE types and exhibits high specificity to glycelaldehyde-derived AGEs (GAAGE). GA-AGE has been suggested to be a "toxic AGE" (TAGE). Such TAGEs may be particularly detrimental to cells and may be more highly associated with disease or disease complications. In addition, recent

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reports describe glycosaminoglycan (GAG) sulfates on some cancer cells as RAGE ligands and suggest that such interactions may promote tumor metastasis (2,3). Thus, factors effecting GA-AGE formation, and compounds effecting the interaction of GA-AGE with RAGE are of interest to study links between AGEs and disease and for the development of drugs that inhibit AGEs-related pathophysiologies.

Kit Components

1. 96-well albumin coated plate: 1 Plate (One strip-well plate);2. Microplate sealing film: 96 well, 2 sheets;3. Sample Dilution Buffer: 30 mL;4. Glyceraldehyde solution (100mM)L: 5 mL;5. Aminoguanidine Stock Solution (20mM) □ Positive control: 0.5 mL;6. Washing Buff er (10X): 30 mL;7. Blocking Buffer: 10 mL;8. RAGE-Fc Solution: 5 mL;9. Alkaline Phosphatase (ALP) labeled protein A/G: 5 mL;10. Substrate Tablets (For 5mL): 3 tablets;11. Substrate Dilution Buffer: 15 mL*This kit can assay one plate of 96 well plate

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