CML-BSA

CATALOG NUMBER: STA-314 **STORAGE:** -20ºC

QUANTITY AND CONCENTRATION: 100 µL of 1.0 mg/mL CML-BSA in 1X PBS.

SHELF LIFE: 1 year from date of receipt under proper storage conditions; aliquot to avoid multiple freeze thaw cycles

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.

Although several AGE structures have been reported, it was demonstrated that N^{ε}-(carboxymethyl) lysine (CML) is a major antigenic AGE structure. CML concentration is increased in patients who have diabetes with complications, including nephropathy, retinopathy, and atherosclerosis. CML is also recognized by receptor for AGE (RAGE), and CML-RAGE interaction activates cell signaling pathways such as NF-κB.

Methods

Dilute the CML-BSA with reducing SDS-PAGE sample buffer to 0.1 µg/mL and boil for 5 minutes. Load 10 µL per lane for western blot analysis of CML protein adducts using Cell Biolabs' CML Immunoblot Kit (Cat. #STA-313).

Example of Results

The following figures demonstrate typical results. One should use the data below for reference only. This data should not be used to interpret actual results.

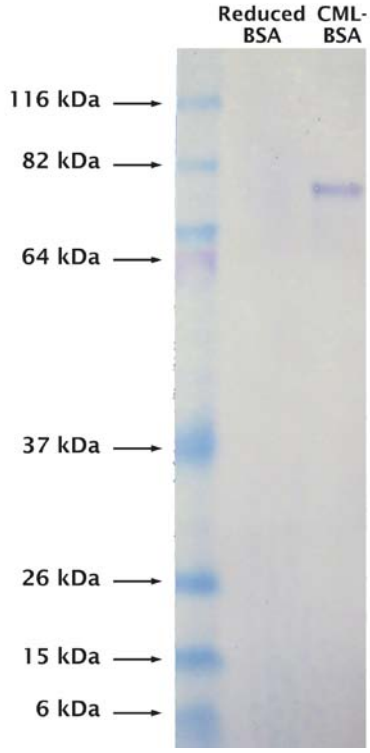

Figure 1: Immunoblotting of CML-BSA Control. CML-BSA Immunoblot Control, was first electroblotted onto nitrocellulose membrane. CML was detected by immunoblotting with anti-CML antibody as described in the Assay Protocol of OxiSelect™ CML Immunoblot Kit (Cat# STA-313).

References

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Contact Information

Cell Biolabs, Inc.
7758 Arjons Drive
San Diego, CA 92126
Worldwide: +1 858-271-6500
USA Toll-Free: 1-888-CBL-0505
E-mail: tech@cellbiolabs.com
www.cellbiolabs.com