Product Data Sheet

Rabbit Anti-N-epsilon-CML Polyclonal Antibody

CATALOG NUMBER: STA-014 **STORAGE:** -20ºC

QUANTITY AND CONCENTRATION: 100 µg of affinity purified antibody at 0.76 mg/mL in 75 mM PBS, pH 7.2, containing 75 mM NaCl, 0.5 mM EDTA, and 0.02% NaN_3
Note: slight precipitation in the tube is normal; centrifuge before use

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

HOST SPECIES: Rabbit

IMMUNOGEN: CML-KLH

SPECIFICITY: CML-modified proteins

APPLICATION: Immunoblot (1:200 to 1:20,000)
ELISA (1:200 to 1:20,000)

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.

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.

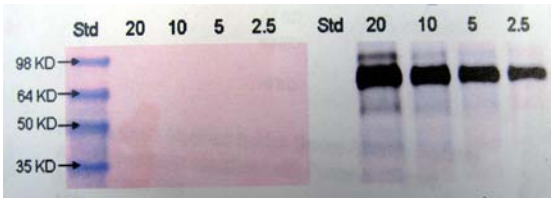

Figure 1. Immunoblot of CML-Modified BSA. Left: Ponceau S staining. **Right:** Immunoblot using Rabbit Anti-CML Polyclonal Antibody at 1:1000 dilution, followed by HRP-conjugated secondary antibody. Numbers indicate ng/lane.

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