Code No.KH011

For research use only

Advanced Glycation End Products （AGEs）

Anti CML Monoclonal Antibody （Clone No. CMS-10）

Reaction of protein amino groups with glucose leads, through the early products such as a Schiff base and Amadori rearrangement products, to the formation of advanced glycation end products (AGEs). Recent immunological studies using anti-AGEs antibody (6D12) demonstrated the presence of AGEs-modified proteins in several human tissues: (i) human lens (nondiabetic and noncataractous), (ii) renal proximal tubules in patients with diabetic nephropathy and chronic renal failure, (iii) diabetic retina, (iv) peripheral nerves of diabetic neuropathy, (v) atherosclerotic lesions of arterial walls, (vi) β_2-microglobulin forming amyloid fibrils in patients with hemodialysis-related amyloidosis, (vii) senile plaques of patients with Alzheimer's disease, (viii) the peritoneum of CAPD patients, (ix) skin elastin in actinic elastosis, and (x) ceriod/lipofuscin deposits. These results suggest a potential role of AGEs-modification in normal aging as well as age-enhanced disease processes. This antibody named as 6D12 has been used to demonstrate AGEs-modified proteins in these human tissues, indicating potential usefulness of this antibody for histochemical identification and biochemical quantification of AGEs-modified proteins.

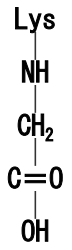
N^{ε}-(carboxymethyl)lysine (CML) was a major AGEs structure identified by Banes et al. in 1989. Oxidative cleavage of Amadori products is considered as a major route to CML formation in vivo. Banes also revealed that CML was directly formed from the reaction between lipidoxidative products and Lysine residue. Thus, CML could become a marker of oxidative stress and long term damage to protein in aging, atherosclerosis, and diabetes.

Package Size	50 μg (200 μL/vial)
Format	Mouse monoclonal antibody 0.25 mg/mL
Buffer	Block Ace as a stabilizer, containing 0.1% Proclin as a bacteriostat
Storage	Store below –20℃.
	Once thawed, store at 4℃. Repeated freeze-thaw cycles should be avoided.
Clone No.	CMS-10
Subclass	IgG1
Purification method	The splenic lymphocytes from BALB/c mouse, immunized with CML-KLH were fused to myeloma P3U1 cells. The cell line (CMS-10) with positive reaction was grown in ascitic fluid of BALB/c mouse, from which the antibody was purified by Protein G affinity chromatography.

Working dilution for immunohistochemistry: 5-10 μg/mL; for ELISA: 0.1-1.0 μg/mL

N^{ε}— (carboxymethyl) lysine

CML



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【References】

1. Dunn JA, Patrick JS, Thorpe SR, Baynes JW (1989): Oxidation of glycated proteins: Age-dependent accumulation of N^{ε}-(carboxymethyl) lysine in lens proteins. *Biochemistry*. 28: 9464-9468.
2. Fu MX, Requena JR, Jenkins AJ, Lions TJ, Baynes JW, Thorpe SR(1996): The advanced glycation end product, N^{ε}-(carboxymethyl) lysine, is a product of both lipid peroxidation and glycoxidation reactions. *J.Biol.Chem*.271: 9982-9986

＊These references are the background of CML , and are not this antibody examples .

Manufacturer

Medicinal Chemistry Pharmaceutical Co., Ltd.

Kobe Research Institute

7-1-14 Minatojimaminami-machi, Chuo-ku, Kobe, Japan 650-0047

Telephone: +81-78-945-7075 FAX:+81-78-306-0694

URL:https://soyaku.co.jp/english/ tech-kobe@soyaku.co.jp

Previous manufacturer

Trans Genic Inc.