Code No.KH012-01

For research use only

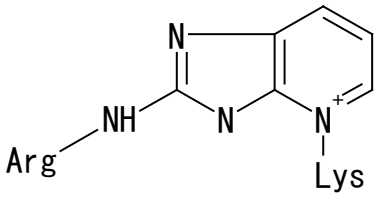
Advanced Glycation End Products （AGEs）

Anti Pentosidine Monoclonal Antibody（Clone No. PEN-12）Biotin conjugated

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) β2-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.

Pentosidine is one of the Maillard compounds identified by Monnier *et al* in 1989. It has been proved to cross-link Arginine to Lysine residue and be detected in β2-microglobulin from patients with hemodialysis-related amyloidosis.

Package Size	50 µg (200 µL/ vial)
Format	Mouse monoclonal antibody, Biotin conjugated 0.25 mg/mL
Buffer	Block Ace as a stabilizer, containing 0.1% Proclin as a bacteriostat
Storage	Store below –20°C. Once thawed, store at 4°C. Repeated freeze-thaw cycles should be avoided.
Clone No.	PEN-12
Subclass	IgG1
Purification method	The splenic lymphocytes from BALB/c mouse, immunized with pentosidine-HSA were fused to myeloma P3U1 cells. The cell line (PEN-12) with positive reaction was grown in ascitic fluid of BALB/c mouse, from which the antibody was purified by Protein G affinity chromatography and conjugated.
Working concentration	for immunohistochemistry: 5-10 µg/mL ; for ELISA: 0.1-1.0 µg/mL
Specificity	Reaction to pentosidine-HSA was suppressed by free-pentosidine in competitive ELISA.



Pentosidine

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【References】※Application Reference

1.	Sell, D.R., *et al*. (1989): Structure Elucidation of a Senescence Cross-link from Human Extracellular Matrix. J.Biol.Chem.264 : 21597-21602
2.	Miyata T, *et al*. (1996): Identification of pentosidine as a native structure for advanced glycation end products in β2-microglobulin-containing amyloid fibrils in patients with dialysis-related amyloidosis. Proc.Natl.Acad.Sci.USA 93 : 2353-2358
3.	Jono T, *et al*. (2002): Accumulation of imidazolone, pentosidine and N(epsilon)-(carboxymethyl)lysine in hippocampal CA4 pyramidal neurons of aged human brain. *Pathol Int.*52: 563-71※

＊This product was developed in conjunction with Meiji Institute of Health Science, Meiji Milk Product Co.,Ltd.

＊Not available in USA

Manufacturer

Medicinal Chemistry Pharmaceutical Co., Ltd.

Previous manufacturer

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