Revision 3

#8941 Store at -20C

ApoE4 (4E4) Mouse mAb

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H	Endogenous	35	Mouse IgG1	#P02649	348

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/mL BSA, 50% glycerol, and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibody.*

For a carrier free (BSA and azide free) version of this product see product #81462.

Specificity/Sensitivity

ApoE4 (4E4) Mouse mAb recognizes endogenous levels of total ApoE4 protein. This antibody does not cross-react with ApoE2 or ApoE3.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Arg130 of human ApoE4 protein.

Background

Apolipoproteins are plasma lipoproteins that function as transporters of lipids and cholesterol in the circulatory system. Chylomicrons are a fundamental class of apolipoproteins containing very low-density lipoproteins (VLDL), intermediate-density lipoproteins (IDL), low-density lipoproteins (LDL), and high-density lipoproteins (HDL) (1,2).

Human ApoE has three isoforms: ApoE2, ApoE3, and ApoE4. These three isoforms differ in the combination of cysteine and arginine residues located at positions 130 and 176. The ApoE4 isoform contains arginine at both locations. Research studies have linked ApoE4 function to neuronal plasticity, synaptogenesis, and neurodegenerative diseases (3). ApoE4 is produced in the liver and brain, although it is widely expressed in other tissues, such as the lung, spleen, and ovary. Investigators have established the ApoE4 allele as a genetic risk factor for Alzheimer's disease (AD), accounting for 50-60% of the genetic variation in the disease (4). Research studies indicate that patients expressing ApoE4 have a reduced capacity for synaptic plasticity, an earlier age of onset of AD, and an increase in amyloid-beta (Aβ) deposition. The increase in Aβ suggests a role for ApoE4 in the impairment of amyloid clearance (5).

Background References

1. Kwiterovich, P.O. (2000) *Am J Cardiol* 86, 5L-10L.
2. Hussain, M.M. (2000) *Atherosclerosis* 148, 1-15.
3. Raber, J. et al. *Neurobiol Aging* 25, 641-50.
4. Corder, E.H. et al. (1993) *Science* 261, 921-3.
5. Holtzman, D.M. et al. (2000) *Proc Natl Acad Sci U S A* 97, 2892-7.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human

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