

#8941 Store at -20°C

ApoE4 (4E4) Mouse mAb



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rev. 03/09/16

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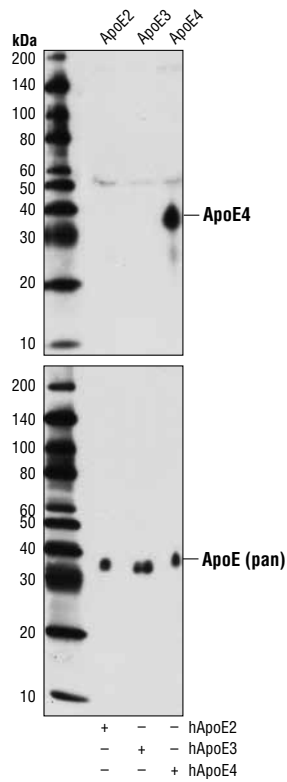
Applications W Endogenous	Species Cross-Reactivity* H	Molecular Wt. 35 kDa	Isotype Mouse IgG1**
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Background: Apolipoproteins are plasma lipoproteins that function as transporters of lipids and cholesterol in the circulatory system. Chylomicrons are 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).

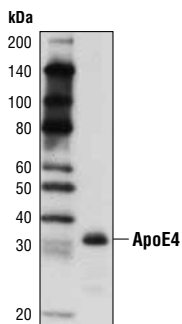
Human ApoE has three isoforms: ApoE2, ApoE3, and ApoE4. These three isoforms differ in the combination of cysteine and arginine residues located at positions 130 and 176. The ApoE4 isoform contains arginine at both locations. Research studies have linked ApoE4 function to neuronal plasticity, synaptogenesis, 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).

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.



Western blot analysis of extracts from HeLa cells, transfected with a construct expressing full-length human ApoE2 (hApoE2; +), ApoE3 (hApoE3; +), or ApoE4 (hApoE4; +), using ApoE4 (4E4) Mouse mAb (upper) or a pan ApoE antibody (lower).



Western blot analysis of human serum using ApoE4 (4E4) Mouse mAb.

Entrez-Gene ID #348
Swiss-Prot Acc. #P02649, VAR_000652

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.

***Species cross-reactivity is determined by western blot.**

****Anti-mouse secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting 1:1000

For product specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended complementary products.

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. (2004) *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 USA* 97, 2892-7.

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

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Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA—Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.