Human Apolipoprotein E3/ApoE3 Antibody

Monoclonal Mouse IgG_1 Clone # 960318

Catalog Number: MAB41443

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Apolipoprotein E3/ApoE3 in direct ELISAs.
Source	Monoclonal Mouse IgG_1 Clone # 960318
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Human Apolipoprotein E3/ApoE3 sythetic peptide Accession # P02649
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

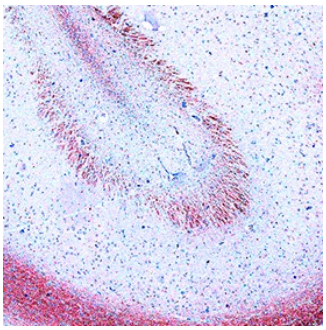
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Immunohistochemistry	5-25 µg/mL	See Below

DATA

Immunohistochemistry



Apolipoprotein E3/ApoE3 in Human Brain. Apolipoprotein E3/ApoE3 was detected in immersion fixed paraffin-embedded sections of human brain (hippocampus) using Mouse Anti-Human Apolipoprotein E3/ApoE3 Monoclonal Antibody (Catalog # MAB41443) at 5 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

ApoE is a major protein component of serum LDL, VLDL, HDL, and chylomicrons. It is produced predominantly by hepatocytes, macrophages, and non-neuronal cells in the CNS. ApoE-containing particles transport triglycerides and cholesterol to peripheral tissues for cellular uptake and catabolism (1-4). Mature human ApoE is a 37 kDa glycoprotein that consists of an N-terminal domain composed of four bundled α-helices, plus a hinge region and an extended α-helical C-terminal domain (2, 5). Its amphipathic nature and flexible structure enables it to adopt dramatically different conformations upon lipid association (2). ApoE is monomeric in lipid particles, although it forms oligomers when lipid-free (6). ApoE3 is the most abundant of the three common alleles in human; ApoE2 and ApoE4 differ by single aa substitutions (1). Mature human ApoE shares 71% aa sequence identity with mouse and rat ApoE. LDL receptor family proteins preferentially bind and internalize the lipid-bound form of ApoE with the exception of VLDLR which also efficiently internalizes lipid-free ApoE (7, 8). Lipoprotein uptake is facilitated by the initial binding of ApoE to cell surface heparan sulfate proteoglycans (HSPG) (9). Receptor/HSPG binding and lipid interactions primarily involve the N- and C-terminal regions of ApoE, respectively (2). Recycled lipid-free ApoE is formed into HDL particles through interactions with the lipid transporter ABCA1 (10). High cellular sterol content activates the nuclear hormone receptor LXR which promotes increased ApoE synthesis and increased sterol efflux, while low sterol content induces LDL R expression with increased sterol uptake and decreased ApoE production (11). ApoE3 dampens the TNF-α induced inflammatory response in vascular endothelial cells (12). In the CNS, ApoE blocks production of the amyloid Aβ peptide by inhibiting the γ-secretase cleavage of APP (13). It also complexes with Aβ and promotes Aβ internalization *via* LRP2 (14, 15).

References:

1. Martins, I.J. *et al.* (2006) Mol. Pschiatry **11**:721.
2. Hatters, D.M. *et al.* (2006) Trends Biochem. Sci. **31**:445.
3. Heeren, J. *et al.* (2006) Arterioscler. Thromb. Vasc. Biol. **26**:442.
4. Mahley, R.W. *et al.* (1984) J. Lipid. Res. **25**:1277.
5. Zannis, V.I. *et al.* (1984) J. Biol. Chem. **259**:5495.
6. Perugini, M.A. *et al.* (2000) J. Biol. Chem. **275**:36758.
7. Ruiz, J. *et al.* (2005) J. Lipid Res. **46**:1721.
8. Chroni, A. *et al.* (2005) Biochemistry **44**:13132.
9. Futamura, M. *et al.* (2005) J. Biol. Chem. **280**:5414.
10. Krimbou, L. *et al.* (2004) J. Lipid. Res. **45**:839.
11. Lucic, D. *et al.* (2007) J. Lipid Res. **48**:366.
12. Mullick, A.E. *et al.* (2007) Arterioscler. Thromb. Vasc. Biol. **27**:339.
13. Irizarry, M.C. *et al.* (2004) J. Neurochem. **90**:1132.
14. Naslund, J. *et al.* (1995) Neuron **15**:219.
15. Zerbinatti, C.V. *et al.* (2006) J. Biol. Chem. **281**:36180.

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