Anti-ApoE Antibody

Alternative Names: Apolipoprotein E, Apo-E4, LDLCQ5

Catalogue Number: AB21-10138-50ug

Size: 50 µg

Background Information

Apolipoprotein E (APOE) is a 34-kDa glycoprotein that mediates lipid metabolism. There are 3 common variants (APOE2, APOE3 and APOE4) that differ in two amino acid positions, 112 and 158. The N-terminal of APOE forms an anti-parallel four-helix bundle with the non-polar sides facing internally and the C-terminal domain contains three helices which form a large exposed hydrophobic surface, interacting with those in the N-terminal helix bundle. The C-terminal region also contains a low density lipoprotein receptor (LDLR)-binding site. The N and C terminal regions of the protein are connected by a hinge region.

In the brain, APOE is produced predominantly by astrocytes, microglia, vascular mural cells, and the choroid plexus. APOE functions through binding to cell surface receptors, including low-density lipoprotein receptor (LDLR) and a number of others [1]. Additionally recent studies have shown that triggering receptor expressed on myeloid cells 2 (TREM2), expressed by microglia in the brain, is also a receptor for APOE [2,3] APOE is the strongest genetic risk modifier of late-onset Alzheimer's disease with APOE4 increasing risk through earlier and more abundant amyloid pathology.

Product Information

Antibody Type:	Polyclonal Antibody	**Host:**	Rabbit
Isotype:	IgG	**Species Reactivity:**	Human, Mouse, Rat

Immunogen: Partial length recombinant human ApoE from the C-terminal region

Format: 50 µg in 50 µl PBS with 0.02% sodium azide, 50% glycerol, pH7.3.

Storage Conditions: Store at -20˚C. Avoid freeze / thaw cycles.

Applications: WB 1:1000-3000. IHC 1:50-200. IF 1:50-100.

Additional Information

Subcellular location:	Secreted/Extracellular region	**MW:**	36kDa (Intended as a general guide and does not allow for all isoforms and species variations)
Gene ID	348	**Uniprot ID:**	P02649

References

[1] Holtzman DM, Herz J, Bu G. Apolipoprotein E and apolipoprotein E receptors: normal biology and roles in Alzheimer disease. Cold Spring Harb Perspect Med. 2012;2(3):a006312.

[2] Atagi Y, et al. Apolipoprotein E Is a Ligand for Triggering Receptor Expressed on Myeloid Cells 2 (TREM2). J Biol Chem. 2015;290(43):26043–50.

[3] Yeh FL, et al. TREM2 Binds to Apolipoproteins, Including APOE and CLU/APOJ, and Thereby Facilitates Uptake of Amyloid-Beta by Microglia. Neuron. 2016;91(2):328–40.