



Recombinant Human ApoE2

20200924BB



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no.:	100-124
Size:	500 µg
Lot. No.:	According to product label

Scientific Background

Gene-ID (NCBI):	348
Synonyms:	APOE; AD2; LPG; LDLCQ5

ApoE belongs to a group of proteins that bind reversibly with lipoprotein and play an important role in lipid metabolism. In addition to facilitating solubilization of lipids, these proteins help to maintain the structural integrity of lipoproteins, serve as ligands for lipoprotein receptors, and regulate the activity of enzymes involved in lipid metabolism. Significant quantities of ApoE are produced in liver and brain and to some extent in almost every organ. ApoE is an important constituent of all plasma lipoproteins. Its interaction with specific ApoE receptor enables uptake of chylomicron remnants by liver cells, which is an essential step during normal lipid metabolism. It also binds with the LDL receptor (apo B/E). Defects in ApoE are a cause of hyperlipoproteinemia type III. ApoE exists in three major isoforms; E2, E3, and E4, which differ from one another by a single amino-acid substitution. Compared with E3 and E4, E2 exhibits the lowest receptor binding affinity. E2 allele carriers had significantly lower levels of total cholesterol, low-density lipoprotein cholesterol, and non-high-density lipoprotein cholesterol, as well as increased ApoE levels. Recombinant human ApoE2 is a 34.3 kDa protein containing 300 amino acid residues.

Sequence

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MKVEQAVETE PEPFLRQQTE WQSGQRWELA LGRFWDYLRW
VQTLSEQVQE ELLSSQVTQE LRALMDETMK ELKAYKSELE
EQLTPVAEET RARLSKELQA AQARLGADME DVCGRVLQYR
GEVQAMLGQS TEELRVRLAS HLRKLRKRLR RDADDLQKCL
AVYQAGAREG AERGLSAIRE RLGPLVEQGR VRAATVGSLSA
GQPLQERAQA WGERLRARME EMGSRTDRDL DEVKEQVAEV
RAKLEEQAQQ IRLQAEAFQA RLKSWFEPLV EDMQRQWAGL
VEKVQAAVGT SAAPVPSDNH

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Database References

Protein RefSeq:	NP_000032.1
Uniprot ID:	P02649
mRNA RefSeq:	NM_000041.2

Product Specifications

Expressed in	E. coli
Purity	≥ 90% by SDS-PAGE & HPLC analyses
Endotoxin level	< 0.1 ng /µg of protein (<1EU/µg).
Formulation	Lyophilized (20mM Sodium Phosphate, pH 7.8 + 0.5mM DTT)
Length (aa):	300
MW:	34.3 kDa

Stability: The lyophilized protein is stable at room temperature for 1 month and at 4°C for 6 months. Reconstituted working aliquots are stable for 1 week at 2°C to 8°C and for 3 months at -20°C to -80°C.

Reconstitution: Centrifuge the vial prior to opening. Reconstitute in **20 mM Sodium Phosphate, pH 7.8 + 0.5 mM DTT** to a concentration of 0.1-1.0 mg/mL. *Do not vortex.* This solution can be stored at 2-8°C for up to 1 week. For extended storage, it is recommended to further dilute in a buffer (e.g. PBS) containing a carrier protein (example 0.1% BSA) and store in working aliquots at -20°C to -80°C.



AVOID REPEATED FREEZE AND THAW CYCLES!

Biological Activity: Data not available.