Recombinant Human Apolipoprotein A-IV/ApoA4

Catalog Number: 9606-AP

DESCRIPTION

Source	*E. coli*-derived Glu21-Ser396, with an N-terminal Met Accession # P06727
N-terminal Sequence Analysis	Met
Predicted Molecular Mass	44 kDa

SPECIFICATIONS

SDS-PAGE	43 kDa, reducing conditions
Activity	Bioassay data are not available.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 250 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
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. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA

Bioactivity not tested

The Innovator Series. R&D Systems proteins are almost always sold with a bioassay to indicate activity. However, we recognize that sometimes proteins might be novel, and their bioactivity may not be well understood. In addition, some researchers may wish to use polypeptides to make antibodies. To facilitate the advancement of new science, we now offer our Innovator Series of proteins.

BACKGROUND

Apolipoprotein A-IV (ApoA4) is a 45 kDa glycoprotein of the lipid transport system. Secreted in plasma, ApoA4 is a major component of high density lipoprotein (HDL) particles and chylomicrons, and is thought to act in intestinal lipid absorption. Levels of ApoA4 may influence HDL metabolism and modulate its effects on atherogenesis (1). ApoA4 synthesis in humans is mainly confined to the small intestine, while in mice and rats, production occurs in the liver as well (2). ApoA4 shares several structural characteristics with ApoA1 and other exchangeable apolipoproteins. The core domain of human ApoA4 contains thirteen 22-amino acid tandem repeats, and nine of which are predicted to be amphipathic α-helical repeats that are critical for lipid binding and self-association (3). The overall structure of a long rod-like dimer consisting of two 4-helix bundles stacked end-to-end in opposing orientations (4). Human ApoA4 is synthesized as a 396 amino acid (aa) precursor, from which a 20 aa N-terminal signal peptide is removed. Mature human ApoA4 shares 61% and 62% aa sequence identity with mouse and rat ApoA4, respectively.

References:

1. Duverger N. *et al.* (1991) Eur. J. Biochem. **201**:373.
2. Maeda, N. *et al.* (1994) J. Biol. Chem. **269**:23610.
3. Segrest, J. P. *et al.* (1994). Adv. Protein. Chem. **45**:303.
4. Deng, X. *et al.* (2012) Structure **20**:767.

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