



Apolipoprotein D, His Tag, human recombinant (rHuApo-D-His)

Catalog No: 69741
Lot No: XXXXX
Source: *E. coli*
Synonyms: Apolipoprotein D, Apo-D, ApoD

Background

Apolipoprotein-D is mainly associated with high density lipoproteins in human plasma. Apolipoprotein-D is an atypical apolipoprotein and, based on its primary structure, Apolipoprotein-D is a member of the lipocalin family. Lipocalins adopt a beta-barrel tertiary structure and transport small hydrophobic ligands. Apolipoprotein-D binds cholesterol, progesterone, pregnenolone, bilirubin and arachidonic acid. Apolipoprotein-D is expressed in numerous tissues having high levels of expression in spleen, testes and brain. Apolipoprotein-D is present at high concentrations in the cyst fluid of women with gross cystic disease of the breast, a condition associated with increased risk of breast cancer. Apolipoprotein-D accumulates in regenerating peripheral nerves and in the cerebrospinal fluid of patients with neurodegenerative conditions, such as Alzheimer's disease. Apolipoprotein-D participates in maintenance and repair within the central and peripheral nervous systems. Apolipoprotein-D is a multi-ligand, multi-functional transporter and transports a ligand from 1 cell to another within an organ, scavenges a ligand within an organ for transport to the blood or could transport a ligand from the circulation to specific cells within a tissue.

Description

Apolipoprotein-D human recombinant produced in *E. coli* is a single, non-glycosylated, polypeptide chain containing 174 amino acids with a C-terminal His Tag and having a molecular mass of 19.82 kDa. The amino acid sequence corresponds to the UniProtKB/Swiss-Prot entry P05090. The following gene modifications were made: Trp99His, Cys116Ser, Ile118Ser, Leu120Ser amino acid exchanges were introduced at the surface of Apolipoprotein-D to enhance the protein's solubility and another three Leu23Pro, Pro133Val, Asn134Ala amino acid exchanges which facilitate its genetic manipulation. Apolipoprotein-D is purified by proprietary chromatographic techniques.

Physical Appearance

Filtered white lyophilized (freeze-dried) powder.

Formulation

Filtered (0.4 µm) and lyophilized from 1 mg/ml in 4 mM KH₂PO₄, 16 mM Na₂HPO₄ and 115 mM NaCl pH 7.5.

Solubility

It is recommended to add deionized H₂O to a working volume of 0.5 mg/ml and let the lyophilized pellet dissolve completely. Product is not sterile! Please filter this product by an appropriate sterile filter before using it in the cell culture.

Stability

Store lyophilized protein at -20°C. Aliquot the product after reconstitution to avoid repeated freezing/thawing cycles. Reconstituted protein can be stored at 4°C for a limited period of time; it does not show any change after two weeks at 4°C.

Purity

Greater than 95% as determined by SDS-PAGE.

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Amino Acid Sequence

FHLGKCPNPP VQENFDVNKY PGRWYEIEKI PTFENGRCI QANYSLMENG KIKVLNQELR ADGTVNQIEG EATPVNLTEP
AKLEVKFSWF MPSAPYHILA TDYENYALVY SCTSISQSFH VDFAWILARN VALPPETVDS LKNILTSNNI DVKKMTVTDQ
VNCPKLSAHH HHHH

Usage

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