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**Product Data Sheet**


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Product Name: Apo D Human  
 Cat. No.: GP20054  
 Batch No.: 1

**Product Data**

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped at Room temp.
Synonyms	Apolipoprotein D; Apo-D; ApoD.		
Amino Acid Sequence	FHLGKCPNPP VQENFDVNKY PGRWYEIEKI PTTFENGRCI QANYSLMENG KIKVLNQELR ADGTVNQIEG EATPVNLTEP AKLEVKFSWF MPSAPYHILA TDYENYALVY SCTSISQSFH VDFAWILARN VALPPETVDS LKNILTSNNI DVKKMTVTDQ VNCPKLSAHHHHHHH.		
Solubility	It is recommended to add deionized H <sub>2</sub> O to a working volume of 0.5mg/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.		
Formulation	Filtered (0.4µm) and lyophilized from 1mg/ml in 4mM KH <sub>2</sub> PO <sub>4</sub> , 16mM Na <sub>2</sub> HPO <sub>4</sub> and 115mM NaCl pH 7.5.		

**Introduction**

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

**Caution: Product has not been fully validated for medical applications. For research use only.**

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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, scavenge a ligand within an organ for transport to the blood or could transport a ligand from the circulation to specific cells within a tissue.

### 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 .

### Background

Apolipoprotein-D Human Recombinant His Tag fusion protein at C-terminus (7 highlighted a.a.) produced in E.Coli is a single, non-glycosylated, Polypeptide chain containing 174 amino acids and having a molecular mass of 19.82kDa. The protein a.a sequence corresponds to the UniProtKB/Swiss-Prot entry P05090. The Following gene modifications were made: Trp99His, Cys116Ser, Ile118Ser, Leu120Ser amino acids exchanges were introduced at the surface of Apolipoprotein-D to enhance the protein's solubility and another three Leu23Pro, Pro133Val, Asn134Ala amino acids exchanges which facilitate its genetic manipulation. The Apolipoprotein-D is purified by proprietary chromatographic techniques.

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