ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Recombinant Apolipoprotein J (ApoJ/Clusterin) Proteins

□ Cat. # APOJ35-R-10	Recombinant (E.Coli) purified Rat ApoJ	**SIZE**: 10 ug
□ Cat. # APOJ36-R-10	Recombinant (HEK 293) purified Human ApoJ protein	**SIZE**: 10 ug

Sulfated glycoprotein-2 (SGP-2) is the major secreted product of Sertoli cells and is thought to play a critical role in spermatogenesis. The protein was shown to be a normal constituent of human blood. It consists of two 40-kD chains, alpha and beta, covalently joined by disulfide bonds. They established that SP-40,40 is a member of the human complement system by directly demonstrating its presence within the S-protein-containing soluble variant of the C5b-9 complex, SC5b-9. SP-40,40 is also called complement lysis inhibitor. It acts as a control mechanism of the complement cascade; specifically, it prevents the binding of a C5b-C7 complex to the membrane of the target cell and in this way inhibits complement-mediated cytolysis.

Apolipoprotein J is the human analog of the rat protein present in high concentrations in the testis, sulfated glycoprotein-2. It is a 70-kD protein associated with high-density lipoproteins (HDL) in human plasma. There is a single copy of the APOJ gene in the human and mouse genomes. The protein is synthesized as a 427-amino acid polypeptide that is posttranslationally cleaved at an internal bond between arg205 and ser206. Two subunits, designated alpha (34 to 36 kD), corresponding to residues 1-205, and beta (36 to 39 kD), corresponding to residues 206-427, are associated through disulfide bonds. APOJ mRNA (1.9 kb) in all but one tissue examined. Its concentration was relatively high in brain, ovary, testis, and liver, lower in heart, spleen, lung, and breast, and absent in T lymphocytes. Apolipoprotein J is distinct from other known apolipoproteins in molecular weight, subunit structure, and isoelectric point.

ApoJ is induced in myocarditis and numerous other inflammatory injuries. Deficient and wildtype mice exhibited similar initial onset of myocarditis. Furthermore, autoantibodies against the primary antigen cardiac myosin were induced to the same extent. After resolution of inflammation, apoJ-deficient, but not wildtype, mice exhibited cardiac function impairment and severe myocardial scarring. These results suggested that apoJ normally limits progression of autoimmune myocarditis and protects the heart from postinflammatory tissue destruction.

Source of Antigen, Antibodies, and positive controls

Human ApoJ (#APOJ36-R-10) was expressed as a recombinant protein with C-terminal fusion of His-Tag. The ApoJ Human His-Tagged Fusion Protein, produced in Human embryonic kidney cells (HEK293) is ~~54 Kda protein containing 1-427 amino acid residues of the APO-J Human (protein accession #P10909; 23-449 secreted) and 27 additional amino acid residues (– His-Tag, T7-Tag). Purity is >95% by SDS-APGE (~26 kda). It is supplied in 0.01M Tris buffer pH 7.2 in liquid (10 ug/50 ul) or in powder form. Reconstitute powder in 50 ul water. 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. **Please avoid freeze-thaw cycles.**

Recombinant Human ApoJ Sequence

DQTVSDNELQ EMSNQGSKYV NKEIQNAVNG VKQIKTLIEK TNEERKTLLS NLEEAKKKKE DALNETRESE TKLKELPGVC NETMMALWEE CKPCLKQTCM KFYARVCRSGS GLVGRQLEE FLNQSSPFYF WMNGDRIDSL LENDRQQTHM LDVMQDHFSRA SSIIDELFQ DRFFTREPQD TYHYLPFSLP HRRPHFFFPK SRIVRSLMPF SPYEPLNFHA MFQPFLEMIH EAQQAMDIHF HSPAFQHPPT EFIREGDDDR TVCREIRHNS TGCLRMKDQC DKCREILSVD CSTNNPSQAKLRRELDESLQ VAERLTRKYN ELLKSYQWKM LNTSSLLEQL NEQFNWVSRL ANLTQGEDQYYLRVTTVASH TSDSDVPSGV TEVVVKLFDS DPITVTVPVE VSRKNPKFME TVAEKALQEY RKKHREE**GSL GSGWSHPQFE KTGHHHHHHH HGGQ**

Rat ApoJ (#APOJ35-R-10) was expressed as a recombinant protein with N-terminal fusion of T7-Tag (16AA) and C-terminal fusion of His-Tag (9AA). Rat ApoJ Human His-Tagged Fusion Protein, produced in E.coli, is ~26.5 kDa protein containing 215 amino acid residues of the APO-J Human and 25 additional amino acid residues – His-Tag, T7-Tag. Purity is >95% by SDS-APGE (~26.5 kda). It is supplied in 0.01M Tris buffer pH 7.2 in liquid (10 ug/50 ul) or in powder form. Reconstitute powder in 50 ul water. 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. **Please avoid freeze-thaw cycles.**

Sequence of recombinant rat ApoJ/Clusterin (146-360 aa)

ASMTGGQQM GRDP NSSSPF YFWMNGDRID SLLESDRQQS QVLDAMQDSF TRASGIIDTL FQDRFFTHEPQDIHHFSPMG FPHKRPHLLY PKSRLVRSLM PLSHYGPLSF HNMFQPFFDM IHQAQQAMDV QLHSPALQFPDVDFLKEGED DRTVCKEIRH NSTGCLKMKG QCEKCQEILS VDCSTNNPAQ ANLRQELNDS LQVAERLTQQYNELLHSLQS KMLNTSSLLE Q **ALEHHHHHH**

Recommended Usage

Recombinant proteins are suitable for ELISA, dot blot or Western blot protein controls and probing with appropriate antibodies.

General References: Chen, X. (2003) PNAS, 100: 9530-9535; 6. de Silva, H. V.(1990) Biochemistry 29: 5380-5389; de Silva, H. V.(1990) J. Biol. Chem. 265: 14292-14297; McLaughlin, L. (2000) J. Clin. Invest. 106: 1105-1113; Murphy, B. F.(1988) J. Clin. Invest. 81: 1858-1864; O'Bryan, M. K. (1990) J. Clin. Invest. 85: 1477-1486

*This product is for In vitro research use only.

Related material available from ADI

Ant-ApOE 1-4, ApoJ and recombinant proteins

Anti-beta amyloid 1-40, 1-42, APP, Parkin, Synucleins (α, β, γ), Presenilins 1, 2, ERAB

APOJ35-36-R-10 140609P

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