Clusterin Canine E. coli

Product Data Sheet

Type: Recombinant
Source: E. coli
Species: Canine
Other names: Apolipoprotein J, Apo J

Cat. No.:
RD472034100 (0.1 mg)

Description

Total 433 AA. MW: 50.6 kDa (calculated). N-terminal His-tag, 10 extra AA (highlighted). The AA sequence is identical to UniProtKB/Swiss-Prot entry P25473 (AA23-445).

Introduction to the Molecule

Clusterin is a 75-80 kD disulfide-linked heterodimeric protein containing about 30% of N-linked carbohydrate rich in sialic acid, but truncated forms targeted to the nucleus have also been identified.
The precursor polypeptide chain is cleaved proteolytically to remove the 22-mer secretory signal peptide and subsequently between residues 227/228 to generate the alpha and beta chains. These are assembled anti-parallel to give a heterodimeric molecule in which the cysteine-rich centers are linked by five disulfide bridges and are flanked by two predicted coiled-coil alpha-helices and three predicted amphipathic alpha-helices. Clusterin is a heavily N-glycosylated protein.
Across a broad range of species clusterin shows 70% to 80% of sequence homology. It is ubiquitously expressed in most mammalian tissues and can be found in plasma, milk, urine, cerebrospinal fluid and semen.
It is able to bind and form complexes with numerous partners such as immunoglobulins, lipids, heparin, bacteria, complement components, paraoxonase, beta amyloid, leptin and others. Clusterin has been ascribed a plethora of functions such as phagocyte recruitment, aggregation induction, complement attack prevention, apoptosis inhibition, membrane remodelling, lipid transport, hormone transport and/or scavenging, matrix metalloproteinase inhibition.
A detailed mechanism of clusterin has not been defined. One tempting hypothesis says that clusterin is an extracellular chaperone protecting cells from stress induced by degraded and misfolded protein precipitates.Clusterin is up- or downregulated on the mRNA or protein level in many pathological and clinically relevant situations including cancer, organ regeneration, infection, Alzheimer disease, retinitis pigmentosa, myocardial infarction, renal tubular damage, autoimmunity and others.

Research topic

Animal studies, Oncology, Others, Renal disease, Sepsis

Amino Acid Sequence

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MKHHHHHHAS DQAVSDTELQ EMSTEGSKYI NKEIKNALKG VKQIKTLIEQ TNEERKSLLS NLEEAKKKKE DALNDTKDSE
TKLKASQGVC NDTMMALWEE CKPCLKQTCM KFYARVCRSG SGLVGHQLEE FLNQSSPFYF WMNGDRIDSL LENDRQQTHA
LDVMQDSFNR ASSIMDELFQ DRFFTREPQD TYHYSPFSLF QRRPFFNPKF RIARNIIPFP RFQPLNFHDM FQPFFDMIHQ
AQQAMDVNLH RIPYHFPIEF PEEDNRTVCK EIRHNSTGCL KMKDQCEKCQ EILSVDCSSN NPAQVQLRQE LSNSLQIAEK
FTKLYDELLQ SYQEKMFNTS SLLKQLNEQF SWVSQLANLT QSEDPFYLQV TTVGSQTSDS NVPVGFTKVV VKLFDSDPIT
VMIPEAVSRN NPKFMETVAE KALQEYRQKH REE
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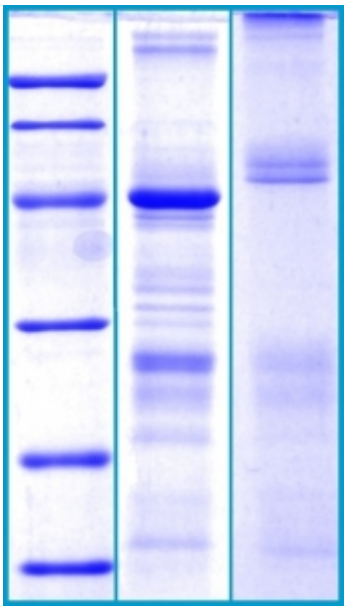
Source

E. coli

Purity

Purity as determined by densitometric image analysis: >75%

SDS-PAGE gel



12% SDS-PAGE separation of Canine Clusterin
1. M.W. marker - 14, 21, 31, 45, 66, 97 kDa
2. reduced and heated sample, 5µg/lane
3. non-reduced and non-heated sample, 5µg/lane

Formulation

Filtered (0.4 µm) and lyophilized from 0.5 mg/ml in 20mM Tris buffer, 50mM NaCl, pH 7.5

Reconstitution

Add deionized water to prepare a working stock solution of approximately 0.5 mg/mL and let the lyophilized pellet dissolve completely. Filter sterilize your culture media/working solutions containing this non-sterile product before using in cell culture.

Shipping

At ambient temperature. Upon receipt, store the product at the temperature recommended below.

Storage, Stability/Shelf Life

Store lyophilized protein at -20°C. Lyophilized protein remains stable until the expiry date when stored at -20°C. Aliquot reconstituted protein to avoid repeated freezing/thawing cycles and store at -80°C for long term storage. Reconstituted protein can be stored at 4°C for a limited period of time; it does not show any change after one week at 4°C.

Quality Control Test

BCA to determine quantity of the protein.
SDS PAGE to determine purity of the protein.

Applications

Western blotting

Note

This product is intended for research use only.

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