

Clusterin Canine, Sheep Polyclonal Antibody

Product Data Sheet

Source of Antigen: *E. coli*

Host: Sheep

Cat. No.:

RD484034100 (0.1 mg)

Other names: Apolipoprotein J, Apo J

Research topic

Animal studies, Others, Renal disease

Preparation

The antibody was raised in sheep by immunization with the recombinant Canine Clusterin.

Amino Acid Sequence

The immunization antigen (50.6 kDa - calculated) is a protein containing 433 AA of recombinant Canine Clusterin. N-terminal His-tag, 10 extra AA (highlighted). The AA sequence is identical to UniProtKB/Swiss-Prot entry P25473 (AA23-445).

MKHHHHHHAS DQAVSDTELQ EMSTEGSKYI NKEIKNALKG VKQIKTLIEQ TNEERKSLLS NLEEAKKKKE DALNDTKDSE
 TKLKASQGVC NDTMMALWEE CKPCLKQTCM KFYARVCRSG SGLVGHQLEE FLNQSSPFYF WMNGDRIDSL LENDRQQTHA
 LDVMQDSFNR ASSIMDELQ DRFFFTREPQD TYHYSFSLF QRRPFFNPKF RIARNIIPFP RFQPLNFHDM FQPFFDMIHQ
 AQQAMDVNLH RPYHFPIEF PEEDNRTVCK EIRHNSTGCL KMKDQCEKCQ EILSVDCSSN NPAQVQLRQE LSNSLQIAEK
 FTKLYDELLO SYQEKMFNTS SLLKQLNEQF SWVSQLANLT QSEDPFYLQV TTVGSQTSDS NVPVGFQTKVV VKLFDSDPIT
 VMIPEAVSRN NPKFMETVAE KALQEYRQKH REE

Species Reactivity

Canine

Not yet tested in other species.

Purification Method

Immunoaffinity chromatography on a column with immobilized recombinant Canine Clusterin.

Antibody Content

0.1 mg (determined by BCA method, BSA was used as a standard)

Formulation

The antibody is lyophilized in 0.05 M phosphate buffer, 0.1 M NaCl, pH 7.2. **AZIDE FREE.**

Reconstitution

Add 0.1 ml of deionized water and let the lyophilized pellet dissolve completely. Slight turbidity may occur after reconstitution, which does not affect activity of the antibody. In this case clarify the solution by centrifugation.

Storage/Stability

The lyophilized antibody remains stable and fully active until the expiry date when stored at -20°C. Aliquot the product after reconstitution to avoid repeated freezing/thawing cycles and store frozen at -80°C. Reconstituted antibody can be stored at 4°C for a limited period of time; it does not show decline in activity after one week at 4°C.

Expiration

See vial label.

Lot Number

See vial label.

Quality Control Test

Indirect ELISA - to determine titer of the antibody

SDS PAGE - to determine purity of the antibody

Applications

ELISA, Western blotting

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. The six sites of N-linked glycosylation are indicated as yellow spots.

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.

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