

# Clusterin / Apolipoprotein J

*highlight*

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International Version

## Product Overview

### Proteins

#### Clusterin (secretory form) (human) (rec.)

ALX-201-358-C010 10 µg  
ALX-201-358-C050 50 µg

Produced in HEK 293 cells. Mature human secretory clusterin (aa 1-449) is fused at the C-terminus to a FLAG<sup>®</sup>-tag.

#### Clusterin (nuclear form) (human) (rec.) (His)

ALX-201-355-C050 50 µg

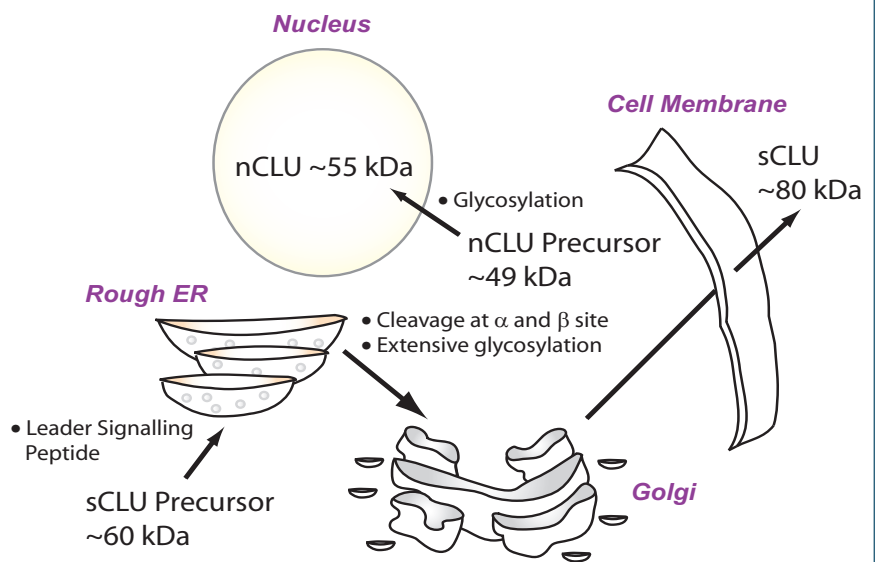
Produced in *E. coli*. Mature human nuclear clusterin (aa 23-449) is fused at the C-terminus to a His-tag.

#### Clusterin (nuclear form) (mouse) (rec.) (His)

ALX-201-365-C050 50 µg

Produced in *E. coli*. Mature mouse nuclear clusterin (aa 22-448) is fused at the C-terminus to a His-tag.

## Clusterin / Apolipoprotein J [Apo-J]



Generation of clusterin. Adapted from: *Challenge and promise: roles of clusterin in pathogenesis, progression and therapy of cancer*: B. Shannan, et al.; Cell Death Differ. 13, 12 (2006)

Clusterin [CLU [1]; Apo-J [2]; TRPM-2 [3]; SGP2 [4]; NA1/NA2 [5]; CLI; SP-40,40 [6]] is a chaperone-like molecule capable of interacting with various proteins. It has been first isolated from rat testes fluid and was found to be able to "cluster" red blood cells [1]. Widely expressed in mammalian tissues, clusterin has been implicated in many diverse physiological processes such as lipid transportation, complement inhibition, sperm maturation, tissue remodeling, cell-cell and cell-substrate interactions, membrane recycling and stabilization of stressed proteins in a folding-competent state. The main product of the clusterin gene is a ~60 kDa pre-secretory form (pre-sCLU),

which is targeted to the ER by an initial leader peptide. As the protein is transported towards the Golgi it becomes glycosylated and cleaved into α and β subunits. The **secreted form** of clusterin (**sCLU**) arise when both subunits become linked by disulfide bridges to form a heterodimeric protein of about 80 kDa. Secreted clusterin is a major protein of physiological fluids such as plasma, milk, urine, cerebrospinal fluid and semen. Recently, a smaller isoform of 50-55 kDa has been identified. This **nuclear form** (**nCLU**) results from a second transcript and localizes to the nucleus [7].

CONTINUED ON BACKCOVER

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**NEW**

## Human Specific Clusterin Competitive ELISA Kit

See Backcover for details!

## Clusterin/Apo-J *continued*

Increased expression pattern of clusterin have been found in states where either abnormal cell death or proliferation is occurring. The corresponding diseases include atherosclerosis, glomerulonephritis, myocardial infarction, retinitis pigmentosa, and brain neurodegenerative manifestations such as Alzheimer's disease. Clusterin also exerts a significant role during tumorigenesis and progression of several human cancers. Conflicting data demonstrate both a pro- and an anti-apoptotic effect. With the discovery of the nuclear isoform, this ambiguity has been explained by a cytoprotective effect of the nuclear form and a proapoptotic effect of the secreted form. In a recent report the full-length **intracellular clusterin** of ~60kDa has been described to mediate anti-apoptotic activity by interfering with the pro-apoptotic protein Bax [8].

**LIT:** [1] Purification and characterization of a cell-aggregating factor (clusterin), the major glycoprotein in ram rete testis fluid: O. Blaschuk, et al.; J. Biol. Chem. **258**, 7714 (1983) ▪ [2] A 70-kDa apolipoprotein designated ApoJ is a marker for subclasses of human plasma high density lipoproteins: H. V. de Silva, et al.; J. Biol. Chem. **265**, 13240 (1990) ▪ [3] Characterization and cloning of androgen-repressed mRNAs from rat ventral prostate: J. G. Leger, et al.; BBRC **147**, 196 (1987) ▪ [4] Biosynthesis and molecular cloning of sulfated glycoprotein 2 secreted by rat Sertoli cells: M. W. Collard & M. D. Griswold; Biochemistry **26**, 3297 (1987) ▪ [5] Characterization of a human high density lipoprotein-associated protein, NA1/NA2. Identity with SP-40,40, an inhibitor of complement-mediated cytotoxicity: R. W. James, et al.; Arterioscler. Thromb. **11**, 645 (1991) ▪ [6] Molecular cloning and characterization of the novel, human complement-associated protein, SP-40,40: a link between the complement and reproductive systems: L. Kirszbaum, et al.; EMBO J. **8**, 711 (1989) ▪ [7] Synthesis and functional analyses of nuclear clusterin, a cell death protein: K. S. Leskov, et al.; J. Biol. Chem. **278**, 11590 (2003) ▪ [8] Clusterin inhibits apoptosis by interacting with activated Bax: H. Zhang, et al.; Nat. Cell Biol. **7**, 909 (2005)

### Selected Latest Review Articles

Clusterin/apolipoprotein J in human aging and cancer: I. P. Trougakos & E. S. Gonos; Int. J. Biochem. Cell. Biol. **34**, 1430 (2002) ▪ Clusterin and Alzheimer's disease: M. Calero, et al.; Subcell. Biochem. **38**, 273 (2005) ▪ Challenge and promise: roles for clusterin in pathogenesis, progression and therapy of cancer: B. Shannan, et al.; Cell Death Differ. **13**, 12 (2006)

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## Product Overview

### Antibodies

#### MAB to Clusterin (human) (CLI-9)

ALX-804-126-C100

100 µg

CLONE: CLI-9. ISOTYPE: Mouse IgG1. IMMUNOGEN: Purified human clusterin. SPECIFICITY: Recognizes human clusterin. APPLICATION: IHC (FS), ICC, IP, WB.

#### PAb to Clusterin (human) (AT109)

ALX-210-930-C050

50 µg

From rabbit. IMMUNOGEN: Recombinant human clusterin (aa 23-449) (Prod. No. ALX-522-089). SPECIFICITY: Recognizes human clusterin. APPLICATION: WB.

#### PAb to Clusterin (human)

ALX-210-443-C100

100 µg

ALX-210-443B-C050 Biotin 50 µg

From rabbit. IMMUNOGEN: Recombinant human clusterin. SPECIFICITY: Recognizes human clusterin. Detects a band of ~49kDa by Western blot. APPLICATION: ELISA, WB.

#### PAb to Clusterin (human)

ALX-210-451-C100

100 µg

From rabbit. IMMUNOGEN: Recombinant human secretory clusterin. SPECIFICITY: Recognizes human serum or plasma clusterin. Detects a band of ~40kDa by Western blot. APPLICATION: ELISA, WB.

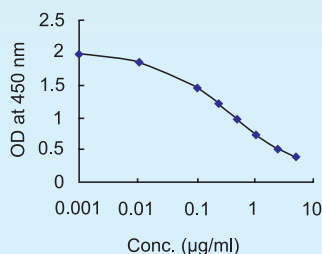


## Human Specific Clusterin Competitive ELISA Kit

Excellent Quality – High Sensitivity –  
Batch-to-Batch Reproducibility

Standard protein:

- Detection limit: 1 ng/ml
- Detection range (Standard range): 1 ng/ml to 5 µg/ml
- Standard curve for recombinant human clusterin



### Clusterin (human) Competitive ELISA Kit

AG-CC06H2EK-KI01

1 Kit

For the quantitative determination of clusterin in human serum. QUANTITY: 96 wells. SENSITIVITY: 1ng/ml.

Manufactured by AdipoGen, Inc.

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F +41 61 926 89 79

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