

Recombinant Human Clusterin (carrier-free)

Catalog# / Size	750704 / 25 µg 750706 / 100 µg
Regulatory Status	RUO
Other Names	Complement Lysis Inhibitor (CLI), Apolipoprotein J (APOJ), Complement associated protein SP-40, 40 (SP-40), Testosterone-repressed prostate message 2 (TRPM2), Sulfated glycoprotein 2 (SGP-2), AAG4, CLU1, CLU2, KUB1
Description	Clusterin, also known as Apolipoprotein J, is a heterodimeric glycoprotein that exhibits a wide array of biological functions including lipid transportation, cell death, cell clustering, complement inhibition, tissue remodeling, reproduction, and cancer progression. Structurally, alpha (Ser228-Glu449) and beta chain (Asp23-Arg227) of mature clusterin are assembled in an anti-parallel fashion, in which the cysteine-rich centers are linked by five disulfide bridges and are flanked by two coiled-coil alpha-helices and three amphipathic alpha-helices. The two chains are coded in a single open reading frame. In blood, circulating clusterin is predominantly associated with HDL. Approximately 22% of clusterin is present in HDL, while only about 9% is present in LDL/VLDL. Insulin resistance, obesity, and dyslipidemia are characteristics of the metabolic syndrome and type 2 diabetes. It has been shown that there is a strong negative correlation between the concentration of clusterin in HDL and both insulin sensitivity and body mass index. Thus, clusterin depletion may contribute to the loss of HDL's cardioprotective properties. In fact, clusterin levels in HDL3 increase when patients with cardiovascular diseases are treated with statin and niacin therapy. Importantly, it was shown that people who already have Alzheimer's disease have more clusterin in their blood, and that their clusterin levels correlate with faster cognitive decline in patients suffering from Alzheimer's disease. These clinical findings suggest that Clusterin may play a role in protein folding. Mature human clusterin shares a 77% amino acid sequence homology with its mouse counterpart.

Product Details

Source	Human Clusterin, amino acids (Asp23-Arg227-beta chain & Ser228-Glu449-alpha chain) (Accession# NP_001822), was expressed with a C-terminal His tag in 293E cells.
Molecular Mass	The 433 amino acid recombinant protein has a predicted molecular mass of approximately 50.8 kD. The protein migrates approximately at 40 kD in DTT-reducing conditions and at 70 kD in non-reducing conditions by SDS-PAGE. The predicted N-terminal amino acid is Asp.
Purity	>95%, as determined by Coomassie stained SDS-PAGE.
Formulation	0.22 µm filtered protein solution is in PBS, pH 7.2.
Endotoxin Level	Less than 0.1 EU per µg of protein as determined by the LAL method.
Concentration	10 and 25 µg sizes are bottled at 200 µg/mL. 100 µg size and larger sizes are lot-specific and bottled at the concentration indicated on the vial. To obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.
Storage & Handling	Unopened vial can be stored between 2°C and 8°C for up to 2 weeks, at -20°C for up to six months, or at -70°C or colder until the expiration date. For maximum results, quick spin vial prior to opening. The protein can be aliquoted and stored at -20°C or colder. Stock solutions can also be prepared at 50 - 100 µg/mL in appropriate sterile buffer, carrier protein such as 0.2 - 1% BSA or HSA can be added when preparing the stock solution. Aliquots can be stored between 2°C and 8°C for up to one week and stored at -20°C or colder for up to 3 months. Avoid repeated freeze/thaw cycles.
Activity	Human Clusterin is able to bind HDL in a dose dependent manner with an ED ₅₀ of 0.5 - 4.0 µg/ml. In addition, hClusterin can block the hEGF (20 ng/ml) induced LnCap cell proliferation in a dose dependent manner with an ED ₅₀ of 0.1 - 0.6 ng/ml.
Application	Bioassay
Application Notes	BioLegend carrier-free recombinant proteins provided in liquid format are shipped on blue-ice. Our comparison testing data indicates that when handled and stored as recommended, the liquid format has equal or better stability and shelf-life compared to commercially available lyophilized

proteins after reconstitution. Our liquid proteins are verified in-house to maintain activity after shipping on blue ice and are backed by our [100% satisfaction guarantee](#). If you have any concerns, contact us at tech@biolegend.com.

Application References

(PubMed link indicates BioLegend citation)

1. Zhou W, *et al.* 2002. *Life Sciences* 72:11.
2. Jenne DE, *et al.* 1991. *J. Biol. Chem.* 266:11030.

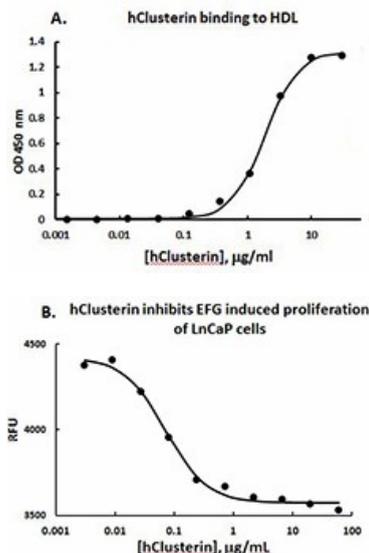
Antigen Details

Structure	Dimer.
Distribution	Ovary, testis, adrenal gland, heart, liver, brain, epithelial tissue, and Sertoli cells.
Function	Clusterin exhibits functions of lipid transportation, apoptosis, complement inhibition, and tissue remodeling.
Ligand/Receptor	HDL.
Bioactivity	Clusterin is able to bind HDL and inhibit the hEGF induced LnCap cell proliferation in a dose dependent manner.
Biology Area	Complement
Antigen References	<ol style="list-style-type: none">1. de Silva H.V., <i>et al.</i> 1990. <i>J. Biol. Chem.</i> 265:14292.2. Jenne DE, <i>et al.</i> 1991. <i>J. Biol. Chem.</i> 266:11030.3. Shannan B, <i>et al.</i> 2006. <i>Cell Death Differ.</i> 13:12.4. Green PS, <i>et al.</i> 2008. <i>Circulation</i> 118:1259.5. Falgarone G and Chiocchia G. 2009. <i>Adv. Cancer Res.</i> 104:139.6. Klock G, <i>et al.</i> 2009. <i>Adv. Cancer Res.</i> 104:115.7. Hoofnagle AN, <i>et al.</i> 2010. <i>Arterioscler Thromb. Vasc. Biol.</i> 30:2528.8. Schrijvers EM, <i>et al.</i> 2011. <i>JAMA</i> 305:1322.

Gene ID

[1191](#)

Product Data



Recombinant human Clusterin is able to bind immobilized HDL (A), and inhibit the hEGF- induced LnCap Cell proliferation (B) in a dose dependent manner. The ED₅₀ for the former is 0.5 - 4.0 µg/ml and 0.1 - 0.6 µg/ml for the latter.

For research use only. Not for diagnostic use. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.

*These products may be covered by one or more Limited Use Label Licenses (see the BioLegend Catalog or our website, www.biolegend.com/ordering#license). BioLegend products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products, reverse engineer functionally similar materials, or to provide a service to third parties without written approval of BioLegend. By use of these products you accept the terms and conditions of all applicable Limited Use Label Licenses. Unless otherwise indicated, these products are for research use only and are not intended for human or animal diagnostic, therapeutic or commercial use.

BioLegend Inc., 8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587

