

# Clusterin (A-9): sc-166907

## BACKGROUND

Clusterin, also designated complement lysis inhibitor (CLI), apolipoprotein J (APOJ), sulfated glycoprotein 2 (SGP2), SP-40 and testosterone-repressed prostate message 2 (TRPM2), is a secretory, heterodimeric glycoprotein that influences immune regulation, cell adhesion, transformation, lipid transportation, tissue remodeling, membrane recycling and cell-cell interactions. Clusterin is synthesized as a 449 amino acid polypeptide that is post-translationally cleaved at an internal bond between Arg 227 and Ser 228. Two subunits,  $\alpha$  and  $\beta$ , are associated through disulfide bonds. The  $\beta$  subunit (also called ApoJ $\alpha$ ) corresponds to residues 23-227. The  $\alpha$  subunit (also called ApoJ $\beta$ ) corresponds to residues 228-449. Overexpression of Clusterin appears to be more common in late stages of mammary tumor progression. Clusterin markedly influences  $\beta$ -Amyloid structure and neuritic toxicity *in vivo* and may influence Alzheimer's disease pathogenesis.

## CHROMOSOMAL LOCATION

Genetic locus: CLU (human) mapping to 8p21.1.

## SOURCE

Clusterin (A-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 120-449 at the C-terminus of Clusterin of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Clusterin (A-9) is available conjugated to agarose (sc-166907 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166907 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166907 PE), fluorescein (sc-166907 FITC), Alexa Fluor® 488 (sc-166907 AF488), Alexa Fluor® 546 (sc-166907 AF546), Alexa Fluor® 594 (sc-166907 AF594) or Alexa Fluor® 647 (sc-166907 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166907 AF680) or Alexa Fluor® 790 (sc-166907 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

Clusterin (A-9) is recommended for detection of Clusterin of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Clusterin siRNA (h): sc-43688, Clusterin shRNA Plasmid (h): sc-43688-SH and Clusterin shRNA (h) Lentiviral Particles: sc-43688-V.

Molecular Weight of Clusterin precursor: 70 kDa.

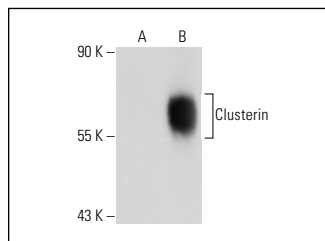
Molecular Weight of Clusterin  $\alpha/\beta$ : 36-39/34-36 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or Clusterin (h): 293T Lysate: sc-112732.

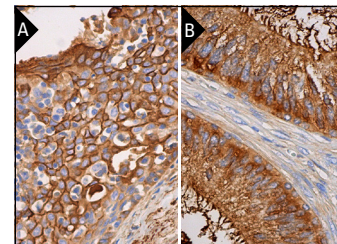
## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA



Clusterin (A-9): sc-166907. Western blot analysis of Clusterin expression in non-transfected: sc-117752 (A) and human Clusterin transfected: sc-112732 (B) 293T whole cell lysates.



Clusterin (A-9): sc-166907. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing cytoplasmic and membrane staining of squamous epithelial cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human epididymis tissue showing cytoplasmic staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

1. Fu-Jun, L., et al. 2012. Differential proteomic analysis of pathway biomarkers in human breast cancer by integrated bioinformatics. *Oncol. Lett.* 4: 1097-1103.
2. Izquierdo, I., et al. 2016. Proteomic identification of putative biomarkers for early detection of sudden cardiac death in a family with a LMNA gene mutation causing dilated cardiomyopathy. *J. Proteomics* 148: 75-84.
3. Nixon, B., et al. 2018. Proteomic profiling of mouse epididymosomes reveals their contributions to post-testicular sperm maturation. *Mol. Cell. Proteomics* 18: S91-S108.
4. Zhang, Y., et al. 2019. Expression of Clusterin suppresses Cr(VI)-induced premature senescence through activation of PI3K/Akt pathway. *Ecotoxicol. Environ. Saf.* 183: 109465.
5. Federico, M.B., et al. 2020. Unscheduled MRE11 activity triggers cell death but not chromosome instability in polymerase  $\eta$ -depleted cells subjected to UV irradiation. *Oncogene* 39: 3952-3964.
6. Backup, M., et al. 2021. Plectin is a regulator of prostate cancer growth and metastasis. *Oncogene* 40: 663-676.
7. Soundararajan, A., et al. 2022. Novel insight into the role of clusterin on intraocular pressure regulation by modifying Actin polymerization and extracellular matrix remodeling in the trabecular meshwork. *J. Cell. Physiol.* 237: 3012-3029.
8. Ren, X., et al. 2023. Clusterin is a prognostic biomarker of lower-grade gliomas and is associated with immune cell infiltration. *Int. J. Mol. Sci.* 24: 13413.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

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