

Clusterin- α (B-5): sc-5289

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, α and β , are associated through disulfide bonds. The β subunit (also called ApoJ α) corresponds to residues 23-227. The α subunit (also called ApoJ β) corresponds to residues 228-449. Overexpression of Clusterin appears to be more common in late stages of mammary tumor progression. Clusterin markedly influences β -Amyloid structure and neuritic toxicity *in vivo* and may influence Alzheimer's disease pathogenesis.

REFERENCES

- de Silva, H.V., et al. 1990. Apolipoprotein J: structure and tissue distribution. *Biochemistry* 29: 5380-5389.
- Rosenberg, M.E., et al. 2002. Apolipoprotein J/clusterin prevents a progressive glomerulopathy of aging. *Mol. Cell. Biol.* 22: 1893-1902.

CHROMOSOMAL LOCATION

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

SOURCE

Clusterin- α (B-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 425-449 at the C-terminus of Clusterin- α of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Clusterin- α (B-5) is available conjugated to agarose (sc-5289 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-5289 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-5289 PE), fluorescein (sc-5289 FITC), Alexa Fluor[®] 488 (sc-5289 AF488), Alexa Fluor[®] 546 (sc-5289 AF546), Alexa Fluor[®] 594 (sc-5289 AF594) or Alexa Fluor[®] 647 (sc-5289 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-5289 AF680) or Alexa Fluor[®] 790 (sc-5289 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-5289 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

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

APPLICATIONS

Clusterin- α (B-5) is recommended for detection of Clusterin- α of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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.

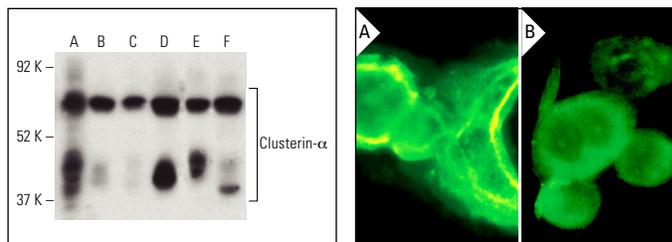
Molecular Weight of Clusterin precursor: 70 kDa.

Molecular Weight of Clusterin- α : 36-39 kDa.

Molecular Weight of Clusterin- β : 34-36 kDa.

Positive Controls: SK-BR-3 cell lysate: sc-2218, A549 cell lysate: sc-2413 or Caco-2 cell lysate: sc-2262.

DATA



Clusterin- α (B-5): sc-5289. Western blot analysis of Clusterin- α expression in SK-BR-3 (A), Caco-2 (B), PANC-1 (C), A549 (D), A-431 (E) and HeLa (F) whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

Clusterin- α siRNA (h): sc-29274. Immunofluorescence staining of methanol-fixed, control HeLa (A) and Clusterin- β siRNA silenced HeLa (B) cells showing diminished nuclear staining in the siRNA silenced cells. Cells probed with Clusterin- β (B-5): sc-5289.

SELECT PRODUCT CITATIONS

- He, H.Z., et al. 2004. Alterations in expression, proteolysis and intracellular localizations of clusterin in esophageal squamous cell carcinoma. *World J. Gastroenterol.* 10: 1387-1391.
- Zhong, J., et al. 2018. Downregulation of secreted clusterin potentiates the lethality of sorafenib in hepatocellular carcinoma in association with the inhibition of ERK1/2 signals. *Int. J. Mol. Med.* 41: 2893-2900.
- Arjun, H.A., et al. 2019. Design, synthesis, and biological evaluation of (E)-N'-((1-chloro-3,4-dihydronaphthalen-2-yl)methylene)benzohydrazide derivatives as anti-prostate cancer agents. *Front. Chem.* 7: 474.
- He, J., et al. 2020. Glomerular clusterin expression is increased in diabetic nephropathy and protects against oxidative stress-induced apoptosis in podocytes. *Sci. Rep.* 10: 14888.

RESEARCH USE

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