SANTA CRUZ BIOTECHNOLOGY, INC.

Clusterin-β (Y-16): sc-13748

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 poly-peptide that is posttranslationally 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 ApoJα) corresponds to residues 23-227. The α subunit (also called ApoJβ) 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

1. de Silva, H.V., et al. 1990. Apolipoprotein J: structure and tissue distribution. Biochemistry 29: 5380-5389.
2. Rosenberg, M.E., et al. 2002. Apolipoprotein J/Clusterin prevents a progressive glomerulopathy of aging. Mol. Cell. Biol. 22: 1893-1902.
3. Chen, X., et al. 2003. Clusterin as a biomarker in murine and human intestinal neoplasia. Proc. Natl. Acad. Sci. USA 100: 9530-9535.
4. Leskov, K.S., et al. 2003. Synthesis and functional analyses of nuclear Clusterin, a cell death protein. J. Biol. Chem. 278: 11590-11600.
5. Gwon, J.S., et al. 2004. Expression of Clusterin in Muller cells of the rat retina after pressure-induced ischemia. Glia 47: 35-45.
6. Pucci, S., et al. 2004. Modulation of different Clusterin isoforms in human colon tumorigenesis. Oncogene 23: 2298-2304.
7. Criswell, T., et al. 2005. Delayed activation of Insulin-like growth factor-1 receptor/Src/MAPK/Egr-1 signaling regulates Clusterin expression, a pro-survival factor. J. Biol. Chem. 280: 14212-14221.

CHROMOSOMAL LOCATION

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

SOURCE

Clusterin-β (Y-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Clusterin of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-13748 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

Clusterin-β (Y-16) is recommended for detection of precursor and mature form of Clusterin-β of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Clusterin precursor: 70 kDa.

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

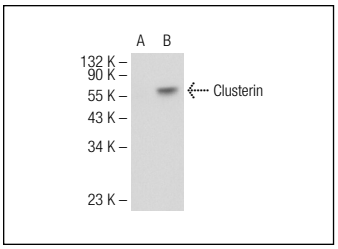
Molecular Weight of Clusterin-β: 34-36 kDa.

Positive Controls: Clusterin (h2): 293T Lysate: sc-113920, HeLa whole cell lysate: sc-2200 or SK-BR-3 cell lysate: sc-2218.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Clusterin-β (Y-16): sc-13748. Western blot analysis of Clusterin expression in non-transfected: sc-117752 (**A**) and human Clusterin transfected: sc-113920 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Makridakis, M., et al. 2010. Analysis of secreted proteins for the study of bladder cancer cell aggressiveness. J. Proteome Res. 9: 3243-3259.
2. Pajak, B., et al. 2015. Nucleofection of rat pheochromocytoma PC-12 cells with human mutated β-amyloid precursor protein gene (APP-sw) leads to reduced viability, autophagy-like process, and increased expression and secretion of β amyloid. Biomed Res. Int. 2015: 746092.

STORAGE

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