

Clathrin LCA (H-55): sc-28276

BACKGROUND

Clathrin is a major cytosolic coat protein in pits and vesicles originating from the plasma membrane and the *trans*-Golgi network. In receptor-mediated endocytosis, receptor proteins are engulfed by clathrin-coated vesicles. Clathrin is composed of three heavy chains and three light chains which associate non-covalently to form a triskelion structure. Clathrin light chain regulates the self-assembly of triskelions onto intracellular membranes. Clathrin light chain subunits (LCA and LCB) contribute to regulation of coated vesicle formation to sort proteins during receptor-mediated endocytosis and organelle biogenesis. Although LCA and LCB are encoded by two discrete genes sharing only 60% homology, they have certain features in common. Both LCA and LCB undergo alternative mRNA splicing, which results in the generation of tissue-specific isoforms. Additionally, in the brain, LCA and LCB contain inserted sequences that form higher molecular weight isoforms. These sequences insert at similar cytoplasmic domain encoding regions for both LCA and LCB.

REFERENCES

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2. Pearse, B.M. et al. 1987. Structure and assembly of coated vesicles. *Annu. Rev. Biophys. Biochem.* 16: 49-68.
3. Jackson, A.P., et al. 1988. Structure of human Clathrin light chains. Conservation of light chain polymorphism in three mammalian species. *J. Biol. Chem.* 263: 16688-16695.
4. Acton, S.L., et al. 1990. Predominance of Clathrin light chain LC β correlates with the presence of a regulated secretory pathway. *J. Cell Biol.* 111: 1419-1426.
5. Wong, D.H., et al. 1990. Neuron-specific expression of high-molecular-weight Clathrin light chain. *J. Neurosci.* 10: 3025-3031.
6. Acton, S.L., et al. 1993. Alteration of Clathrin light chain expression by transfection and gene disruption. *Mol. Biol. Cell* 4: 647-660.
7. Nakamura, Y., et al. 1994. Involvement of Clathrin light chains in the pathology of Alzheimer's disease. *Acta Neuropathol.* 87: 23-31.
8. Ponnambalam, S., et al. 1994. Chromosomal location and some structural features of human Clathrin light-chain genes (CLTA and CLTB). *Genomics* 24: 440-444.

CHROMOSOMAL LOCATION

Genetic locus: CLTA (human) mapping to 9p13.3; Clta (mouse) mapping to 4 B1.

SOURCE

Clathrin LCA (H-55) is a rabbit polyclonal antibody raised against amino acids 51-105 mapping within an internal region of Clathrin LCA of human origin.

PRODUCT

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

APPLICATIONS

Clathrin LCA (H-55) is recommended for detection of Clathrin light chain A of mouse, rat and 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).

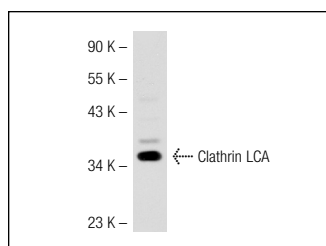
Clathrin LCA (H-55) is also recommended for detection of Clathrin light chain A in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Clathrin LCA siRNA (h): sc-35068, Clathrin LCA siRNA (m): sc-35069, Clathrin LCA shRNA Plasmid (h): sc-35068-SH, Clathrin LCA shRNA Plasmid (m): sc-35069-SH, Clathrin LCA shRNA (h) Lentiviral Particles: sc-35068-V and Clathrin LCA shRNA (m) Lentiviral Particles: sc-35069-V.

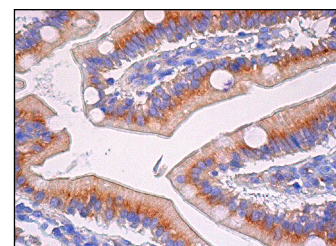
Molecular Weight of Clathrin LCA: 34 kDa.

Positive Controls: JAR cell lysate: sc-2276 or mouse brain extract: sc-2253.

DATA



Clathrin LCA (H-55): sc-28276. Western blot analysis of Clathrin LCA expression in JAR whole cell lysate.



Clathrin LCA (H-55): sc-28276. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Kolokoltsov, A.A., et al. 2007. Small interfering RNA profiling reveals key role of clathrin-mediated endocytosis and early endosome formation for infection by respiratory syncytial virus. *J. Virol.* 81: 7786-7800.

STORAGE

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

RESEARCH USE

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



Try **Clathrin LC (CON.1): sc-12735** or **Clathrin LC (3F133): sc-58717**, our highly recommended monoclonal alternatives to Clathrin LCA (H-55).