SANTA CRUZ BIOTECHNOLOGY, INC.

Clathrin HC (B-5): sc-271252

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 englufed 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 heavy chain (HC) is composed of a terminal globular domain, a distal segment and a proximal segment containing a light chain binding site. The proximal segment of the Clathrin HC protein is essential for interactions between clathrin heavy chains and light chains which result in the formation of the triskelion structure.

REFERENCES

1. Pearse, B.M. 1987. Clathrin and coated vesicles. EMBO J. 6: 2507-2512.
2. Pearse, B.M. and Crowther, R.A. 1987. Structure and assembly of coated vesicles. Annu. Rev. Biophys. Biophys. Biochem. 16: 49-68.
3. Kirchhausen, T., et al. 1987. Clathrin heavy chain: molecular cloning and complete primary structure. Proc. Natl. Acad. Sci. USA 84: 8805-8809.
4. Jackson, A.P. and Parham, P. 1988. Structure of human clathrin light chains. Conservation of light chain polymorphism in three mammalian species. J. Biol. Chem. 263: 16688-16695.
5. Liu, S.H., et al. 1995. Regulation of clathrin assembly and trimerization defined using recombinant triskelion hubs. Cell 83: 257-267.
6. Hunziker, W. and Geuze, H.J. 1996. Intracellular trafficking of lysosomal membrane proteins. Bioessays 18: 379-389.
7. Mellman, I. 1996. Endocytosis and molecular sorting. Annu. Rev. Cell Dev. Biol. 12: 575-625.

CHROMOSOMAL LOCATION

Genetic locus: CLTC (human) mapping to 17q23.1; Cltc (mouse) mapping to 11 C.

SOURCE

Clathrin HC (B-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1637-1674 at the C-terminus of Clathrin HC of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271252 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

Clathrin HC (B-5) is recommended for detection of Clathrin HC of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Clathrin HC (B-5) is also recommended for detection of clathrin heavy chain in additional species, including equine, canine, porcine and avian.

Suitable for use as control antibody for Clathrin HC siRNA (h): sc-35067, Clathrin HC siRNA (m): sc-35066, Clathrin HC shRNA Plasmid (h): sc-35067-SH, Clathrin HC shRNA Plasmid (m): sc-35066-SH, Clathrin HC shRNA (h) Lentiviral Particles: sc-35067-V and Clathrin HC shRNA (m) Lentiviral Particles: sc-35066-V.

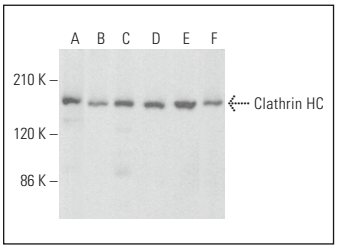
Molecular Weight of Clathrin HC: 192 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, NIH/3T3 whole cell lysate: sc-2210 or HL-60 whole cell lysate: sc-2209.

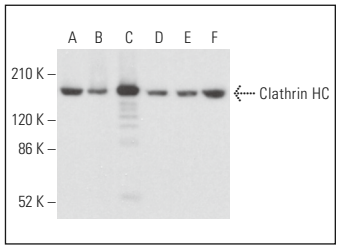
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Clathrin HC (B-5): sc-271252. Western blot analysis of Clathrin HC expression in NIH/3T3 (**A**), KNRK (**B**), HEK293 (**C**), A-431 (**D**), HL-60 (**E**) and Jurkat (**F**) whole cell lysates.



Clathrin HC (B-5): sc-271252. Western blot analysis of Clathrin HC expression in HL-60 (**A**), SH-SY5Y (**B**), ZR-75-1 (**C**), A549 (**D**), U-87 MG (**E**) and SJRH30 (**F**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Bire, S., et al. 2013. Exogenous mRNA delivery and bioavailability in gene transfer mediated by piggyBac transposition. BMC Biotechnol. 13: 75.

RESEARCH USE

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