

Gene Section

Short Communication

CLTC (clathrin heavy polypeptide)

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Identity

Other names: clathrin heavy chain; KIAA0034; CLH-17

HGNC (Hugo): CLTC

Location: 17q23

Note: Must not be confused with CLTCL1 (clathrin heavy polypeptide-like 1), inasmuch as both are involved in translocations with ALK.

DNA/RNA

Transcription

6111 bp mRNA.

Protein

Description

1675 amino acids, 191 kDa; is composed, from N-term to C-term, of: a globular domain (amino acids 1-479), a linker (480-523), and the heavy chain arm (524-1675); properties: binding site for ATPase in N-term, binding of the light chain in the C-term, and trimerization domain in the C-term. Subunit of clathrin, a structural protein composed of 3 heavy chains (CLTC, CLTCL1), and 2 light chains (CLTA, CLTB), which assembly is mediated by CALM. Form cages. Component of the vesicles matrix originated from the plasma membrane or the golgi.

Localisation

Vesicles.

Function

Mediates endocytosis of transmembrane receptors.

Implicated in

Inflammatory myofibroblastic tumors with t(2;17)(p23;q23)

Disease

Rare soft tissue tumour found in children and young adults.

Prognosis

Good prognosis.

Hybrid/Mutated gene

5' CLTC - 3' ALK.

References

Kirchhausen T, Harrison SC. Structural domains of clathrin heavy chains. *J Cell Biol.* 1984 Nov;99(5):1725-34

Kirchhausen T, Harrison SC, Chow EP, Mattaliano RJ, Ramachandran KL, Smart J, Brosius J. Clathrin heavy chain: molecular cloning and complete primary structure. *Proc Natl Acad Sci U S A.* 1987 Dec;84(24):8805-9

Dodge GR, Kovalszky I, McBride OW, Yi HF, Chu ML, Saitta B, Stokes DG, Iozzo RV. Human clathrin heavy chain (CLTC): partial molecular cloning, expression, and mapping of the gene to human chromosome 17q11-qter. *Genomics.* 1991 Sep;11(1):174-8

Kirchhausen T. Clathrin. *Annu Rev Biochem.* 2000;69:699-727

Bridge JA, Kanamori M, Ma Z, Pickering D, Hill DA, Lydiatt W, Lui MY, Colleoni GW, Antonescu CR, Ladanyi M, Morris SW. Fusion of the ALK gene to the clathrin heavy chain gene, CLTC, in inflammatory myofibroblastic tumor. *Am J Pathol.* 2001 Aug;159(2):411-5

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