

Coactosin-like protein

Human, COTL1

Expressed in *E.Coli*

Cat. No. CBCRY15

Lot. No. (See product label)

BACKGROUND

Human coactosin-like protein is an actin filament binding protein but does not bind to globular actin. It associates with 5-Lipoxygenase both in vivo and in vitro, playing important roles in modulating the activities of actin and 5-Lipoxygenase. Coactosin counteracts the capping activity of capping protein which inhibits the actin polymerization. The structure showed a high level of similarity to ADF-H domain, although their amino acid sequences share low degree of homology. A few conserved hydrophobic residues that may contribute to the folding were identified. This structure suggests coactosin-like protein bind to F-actin in a different way from ADF/Cofilin family. Combined with the information from previous mutagenesis studies, the binding sites for F-actin and 5-Lipoxygenase were analyzed, respectively. These two sites are quite close, which might prevent F-actin and 5-Lipoxygenase from binding to coactosin simultaneously.

MOLECULAR DESCRIPTION

Protein classification: protein binding

Structure Weight: 31763.60 Da

Polymer: 1

Molecule: Coactosin-like protein

Chains: A, B

Type: polypeptide (L)

CRYSTAL INFORMATION

PDB ID: [1T2L](#)

MMDB ID: [30298](#)

Source: E.Coli

Method: X-Ray Diffraction

Resolution: 2.8 Å

FOR RESEARCH USE ONLY

CRYSTAL STRUCTURE



GENE INFORMATION

Gene Name: [COTL1](#)

Synonyms: CLP; FLJ43657; MGC19733; coactosin-like 1; coactosin-like 1 (Dictyostelium)

UniProt ID: [Q14019](#)

GeneID: [23406](#)

Chromosome Location: 16q24.1

Function: actin binding; protein binding

PRIMARY CITATION

Liu, L., Wei, Z., Wang, Y., Wan, M., Cheng, Z., Gong, W. (2004) Crystal Structure of Human Coactosin-like Protein J.Mol.Biol. 344: 317-323

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45-16 Ramsey Road Shirley, NY 11967, USA
Tel: 1-866-588-6325 · Fax: 1-631-207-8356
E-mail: info@creative-biostructure.com
www.creative-biostructure.com