

Coactosin-like protein

Cat. No. CBCRY15 **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Source E.coli

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.

Protein Classification protein binding

Structure Weight 31763.60 Da

Polymer 1

Molecule Coactosin-like protein

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

Chain Length	145 amino acids
PDB ID	1T2L
MMDB ID	30298
Method	X-Ray Diffraction
Resolution	2.8 Å
Reference	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

GENE INFORMATION

Gene Name	COTL1
Synonyms	CLP; FLJ43657; MGC19733; coactosin-like 1; coactosin-like 1 (Dictyostelium)
UniProt ID	Q14019
Gene ID	23406
Chromosome Location	16q24.1
Function	actin binding; protein binding

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