

Thioesterase Superfamily Member 2

Human, THEM2

Expressed in *E.Coli*

Cat. No. CBCRY16

Lot. No. (See product label)

BACKGROUND

The crystallographic structure of recombinant hTHEM2, determined by the single-wavelength anomalous dispersion method at 2.3Å resolution, demonstrates that hTHEM2 indeed contains a hotdog-fold and forms a back-to-back tetramer as other hotdog proteins. Based on structural and sequence conservation, the thioesterase active site in hTHEM2 is predicted. The structure and substrate specificity are most similar to those of the bacterial phenylacetyl-CoA hydrolase. Asp65, located on the central alpha-helix of subunit B, was shown by site-directed mutagenesis to be essential to catalysis.

MOLECULAR DESCRIPTION

Protein classification: Hydrolase

Structure Weight: 132969.96 Da

Polymer: 1

Molecule: Thioesterase superfamily member 2

Chains: A, B, C, D, E, F, G

Type: polypeptide (L)

Chain Length: 176 amino acids

CRYSTAL INFORMATION

PDB ID: [2F0X](#)

MMDB ID: [42159](#)

Source: Homo sapiens

Method: X-Ray Diffraction

Resolution: 2.3Å

Ligand Chemical Component: sulfate ion

Related PDB Entries: [2H4U](#)

FOR RESEARCH USE ONLY

CRYSTAL STRUCTURE



GENE INFORMATION

Gene Name: [THEM2](#)

Synonyms: HT012; MGC4961; PNAS-27; 15 Kd protein; OTTHUMP00000016090; OTTHUMP00000039398; hypothalamus protein HT012 acyl-CoA thioesterase 13; thioesterase superfamily member 2; THEM2; ACOT13

UniProt ID: [Q9NPJ3](#)

GeneID: [55856](#)

Chromosome Location: 6p22.2

Function: hydrolase activity

PRIMARY CITATION

Cheng, Z., Song, F., Shan, X., Wei, Z., Wang, Y., Dunaway-Mariano, D., Gong, W. (2006) Crystal structure of human thioesterase superfamily member 2 *Biochem.Biophys.Res.Commun.* 349: 172-177

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