

Tg-mACP

PDB:3CE7

Revision

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Entry Clone Accession:59.m03510

Entry Clone Source:

SGC Clone Accession:59.m03510:A136-Q241:B2-MAY6XA:B1-2

Tag:mgsshhhhhhsgrenlyfqq

Host:BL21-(DE3)-Ros-Ox

Construct

Prelude:

Sequence:

ANETTKQESPVVDTDINAVTNYIVGMCQKFLQKGEKVTPSSKLEELRTREDRLWDCLDTVEFVLDVEEIFDVTVPDEVADNFQTLQE
IADFVVSERAKAGKFMKDQ

Vector:p15-mhl

Growth

Medium:TB

Antibiotics:

Procedure:Tg-mACP was expressed in E. coli BL21-(DE3)-Rosetta Oxford resistant strain in Terrific Broth (TB) in the presence of ampicillin/chloramphenicol (100 microgram/mL and 34 microgram/mL respectively). A single colony was inoculated into 100mL of LB with of ampicillin/chloramphenicol (100 microgram/mL and 34 microgram/mL respectively) in a 250 mL baffled flask and incubated with shaking at 250 rpm overnight at 37 degC. The culture was transferred into 1.8 L of TB with ampicillin/chloramphenicol (100 microgram/mL and 34 microgram/mL respectively) and 0.3 mL of antifoam (Sigma) in a 2 L bottle and cultured using the LEX system to an OD600 of 4.5, cooled to 15 degC, and induced with 0.5 mM isopropyl-1-thio-D-galactopyranoside (IPTG) overnight at 15 degC.

Purification

Procedure

The cleared lysate was loaded onto a 1.0-2.5 mL Ni-NTA (Qiagen) column (pre-equilibrated with Binding Buffer) at approximately 1.5-2.0 mL/min. The Ni-NTA column was then washed with 150 mL of Wash Buffer at 2-2.5 mL/min. After washing, the protein was eluted with Elution Buffer. The eluted sample was applied to a Sephadex S200 26/60 gel filtration column pre-

equilibrated with Gelfiltration Buffer. The fractions corresponding to the eluted protein peak were collected and further concentrated using a 15 mL Amicon Ultra centrifugal filter device (Millipore). The protein sample identity and purity were evaluated by mass spectroscopy and SDS-PAGE gel. The concentrated protein was stored at 4 degC. For long term storage, the protein was flash frozen and stored at -80 degC.

Extraction

Procedure

The culture was harvested by centrifugation. Pellets from 4 L of culture were resuspended to approximately 40 mL/L of cell culture in Binding Buffer with the addition of protease inhibitors (1 mM benzamidine and 1 mM phenylmethyl sulfonyl fluoride (PMSF)). Resuspended pellets stored at 80 degC were thawed overnight at 4 degC on the day before purification. Prior to sonication, each pellet from 1 L of culture was pretreated with 0.5 % CHAPS and 500 units of benzonase for 40 minutes at room temperature. After 10 minutes sonication, the cell lysate was centrifuged using a Beckman JLA-16.250 rotor at 15,500 rpms for 45 minutes at 4 degC.

Concentration:

Ligand

MassSpec:

Crystallization: MAY6XA:B1-21.5 M NH₄SO₄, 0.2 M K₂Na Tartrate, 0.1 M Na Acetate pH 4.5 + 15% glycerol

NMR Spectroscopy:

Data Collection:

Data Processing: