# Pf-UBC13

**PDB:**3E95
**SGC Clone Accession:**PFE1350c:I3-L152:B3 & PFC0255c:M1-S140:C12
**Tag:**N-terminal tag: mgsshhhhhhssgrenlyfqg
**Host:**BL21-(DE3)-V2R-pRARE2
**Vector:**pET15-MHL

**Sequence:**

**PFE1350c:**
IPRRITKETQNLANEPPPGIMAVPVPENYRHFNILINGPDGTPYEGGTYKLELFLPEQYPME
PPKVRFLTKIYHPNIDKLGRICLDILKDKWSPALQIRTVLLSIQALLSSPEPDDPLDSKVAEH
FKQDKNDAEHVARQWNKIYANNNVL
**PFC0255c:**
MSEVIVPRSFRLLDELERGQKGNVSEGVSFGLESADDITLSNWSCTIFGQPGTVFENRIYS
LTIFCDDNYPDSPPTVKFDTKIEMSCVDNCGRVIKNNLHILKNWNRNYTIETILISLRQEM
LSSANKRLPQPNEGEVYS

# Growth

**Medium:**TB
**Procedure:**Both PfUBC13 and PfUev1a were expressed in E. coli BL21-(DE3)-V2R-pRARE2 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 °C. The culture was transferred into 4.0 L of TB with ampicillin/chloramphenicol (100 microgram/mL and 34 microgram/mL respectively) and 0.15 mL of antifoam (Sigma) in a 1 L bottle and cultured using the LEX system to an OD600 of 5-6, cooled to 15 °C, and induced with 0.5 mM isopropyl-1-thio-D-galactopyranoside (IPTG) overnight at 15 °C.

# Purification

**Procedure:** Both PfUBC13 and PfUev1a were purified separately using the same protocol as described below: 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 evalulated 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.

# Structure Determination

**Crystallization:**0.5 M Mg Formate 20 % ethylene glycol; Two proteins were mixed in 1:1 molar ration prior to crystallization. Hanging drop. 293K.