PORCN - Protein-cysteine N-palmitoyltransferase porcupine # PL006

Product specification

Acronym: PORCN
Synonyms: MG61, PPN, PORC
Origin species : Human
Protein reference : Q9H237 (UniProtKB)
NP_073736.2 (GenBank)
Family: Enzyme

Expression system: E.coli based CFPS
Format: Proteoliposomes
Protein sequence: Met1 – Gly461
Tag : 6xHis tag (N-terminal)
Cleavage site: Factor Xa
Product MW: 55.5 kDa
Application: Drug screening & discovery, antibody development, structural biology

Product description

PORCN is an endoplasmic reticulum (ER) enzyme, belonging to the « membrane bounded O-acyltransferase » family. It was initially thought to mediate the palmitoylation of proteins involved in the Wnt (Wingless and int homologue) pathway. It was later shown that it acts as a serine O-palmitoleotyltransferase to mediate the attachment of palmitoleate to Wnt proteins.

Recombinant protein sequence

His tag – factor X cleavage site –
MATFSRQEFFQQLLQGCLLPTAQQGLDQIWLLLAICLACRLLWRLGLPSYLKHASTVAGGFFSLYHFFQLHMVWVVLLSLLCYLVL
FLCRHSSHRGVFLSVTILIYLLMGEMHMVDTVTWHKMRGAQMIVAMKAVSLGFDLDRGEVGTVPSPVEFMGYLYFVGTIVFGPW
ISFHSYLQAVQGRPLSCRWLQKVARSLALALLCLVLSTCVGPYLFPYFIPLNGDRLLRKWLRAYESAVSFHFSNYFVGFLSEATATLA
GAGFTEEKDHLEWDLTVSKPLNVELPRSMVEVVTSWNLPMSYWLNNYVFKNALRLGTFSAVLVTYAASALLHGFSFHLAAVLLS
LAFITYVEHVLRKRLARILSACVLSKRCPPDCSHQHRLGLGVRALNLLFGALAIFHLAYLGSLFDVDVDDTTEEQGYGMAYTVHK
WSELSWASHWVTFGCWIFYRLIG

Quality analysis

Purity: >50% (determined by Coomassie Blue stained SDS-PAGE)

Liposomes are directly incorporated into the Cell-Free reaction, thus, some impurities from the *E.coli* lysate might be present in the proteoliposomes.
A negative control (proteoliposomes without the protein of interest) can be provided (useful for screening, immunization…).
The purity can be improved by protein expression in detergent and relipidation after purification step(s).

Purification procedure: hPORCN proteoliposomes are purified on a sucrose gradient.

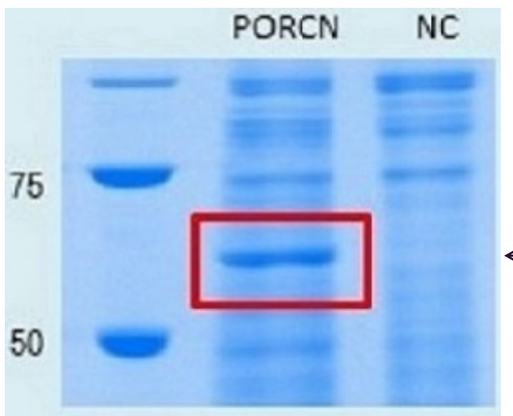


Fig.1: *Identification of hPORCN in proteoliposomes by SDS-PAGE. NC: Negative control.*

NB : Migration of membrane proteins on SDS-PAGE can results in « gel shifting » due to the presence of hairpins (helix-loop-helix)[1-3].

References :
1 – Rath A., et al., Detergent binding explains anomalous SD-PAGE migration of membrane proteins PNAS, 2009 Feb 10, vol. 106
2 – Rath A., et al., Acrylamide concentration determines the direction and magnitude of helical membrane protein gel shifts, PNAS, 2013 Sep 24, 110(39)
3 – Rath A., et al., Correction factors for membrane protein molecular weight readouts on sodium dodecyl sulfate-polyacrilamide gel electrophoresis, Anal. Biochem., 2013 Mar 1, 434(1)

Formulation

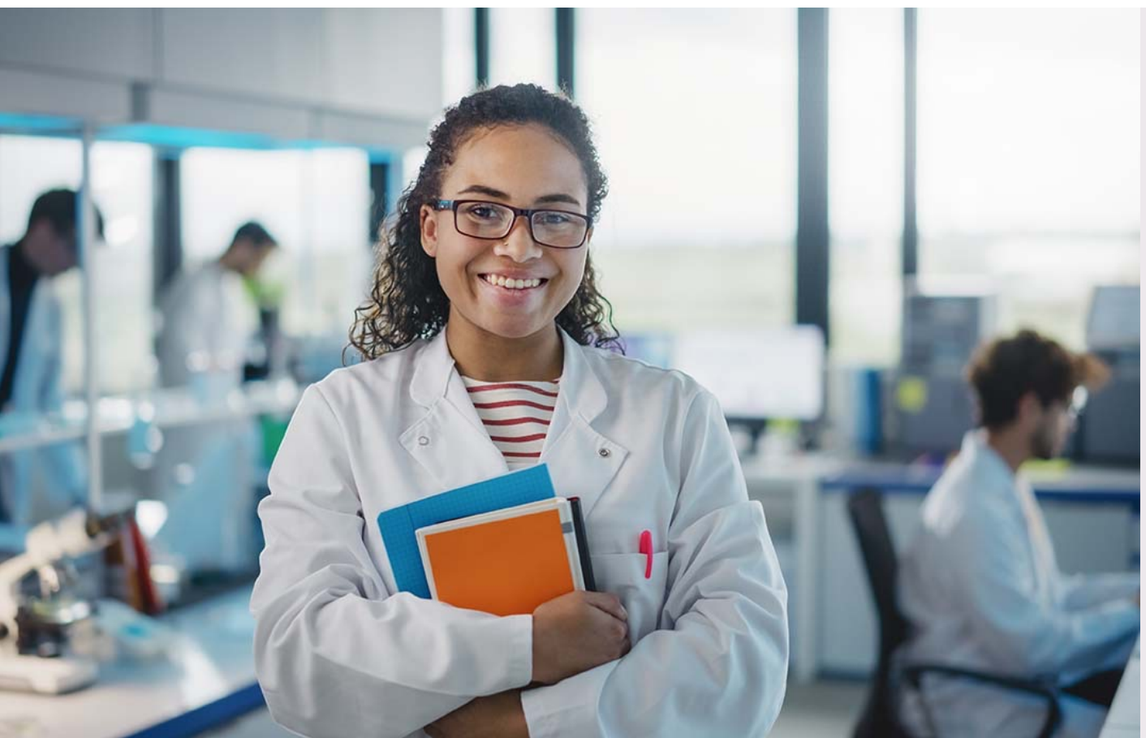
Buffer: Available in Hepes 50mM, pH 7.5 with cryoprotectants. Other buffers or customized formulation can be provided upon request.

Customized Hydrophobic matrix: Customized formulation with specific lipids like PEGylated or biotinylated lipids can be used upon request, as well as targeting molecules.

Storage/Stability: Store at +4°C for up to one week or several months at -80°C. Aliquot for storage.
Do not freeze-thaw after aliquoting.

Use restrictions: For life science research use only.

Available sizes: 10 µg, 50 µg, 100 µg, customized quantity on request.



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