GPR54- G-Protein coupled receptor type 54 # PL097

Product specification

Acronym: GPR54
Synonyms: KISS1R
Origin species: Human
Protein reference : Q969F8 (UniProtKB)
AB051065.1 (GenBank)
Family: G-protein coupled receptor

Expression system: E.coli based CFPS
Format: Proteoliposomes
Protein sequence: Met1 - Leu398
Tag : 6xHis tag (N-ter)
Cleavage site: Factor Xa
Product MW: 45.2 kDa
Application: Drug screening & discovery, antibody development, structural biology

Product description

G protein coupled receptor type 54 has been identified as a metastasis supressor protein, that suppresses metastases in malignant melanomas and in some breast carcinomas without affecting tumorigenicity, by cell cycle arrest and induction of apoptosis in malignants cells. GPR54 is also essential to regulate the gonadotropic axis at puberty and in adulthood.

Recombinant protein sequence

His tag – factor X cleavage site -
MHTVATSGPNASWGAPANASGCPGCGANASDGPVPSPRAVDAWLVPLFFAALMLLGLVGNSLVIYVICRHKPMRTVTNFYIANLA
ATDVTFLLCCVPFTALLYPLPGWVLGDFMCKFVNYIQQVSVQATCATLTAMSVDRWYVTVFPLRALHRRTPRLALAVSLSIWVGS
AAVSAPVLALHRLSPGPRAYCSEAFPSRALERAFALYNLLALYLLPLLATCACYAAMLRHLGRVAVRPAPADSALQGQVLAERAGAV
RAKVSRLVAAVVLLFAACWGPIQLFLVLQALGPAGSWHPRSYAAYALKTWAHCMSYSNSALNPLLYAFLGSHFRQAFRRVCPCAPR
RPRRPRRPGPSDPAAPHAELLRLGSHPAPARAQKPGSSGLAARGLCVLGEDNAPL

Quality analysis

Purity: > 60% as determined by SDS-PAGE stained by Coomassie Blue.
Liposomes are directly incorporated into the Cell-Free reaction, thus, some impurities from the *E.coli* lysate are present in the proteoliposomes.
A negative control (proteoliposomes without the protein of interest) can be provided.
The purity can be improved by protein expression in detergent and relipidation after purification step(s).

Purification procedure: GPR54 proteoliposomes are purified on a sucrose gradient. Further purification steps can be added if required.

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

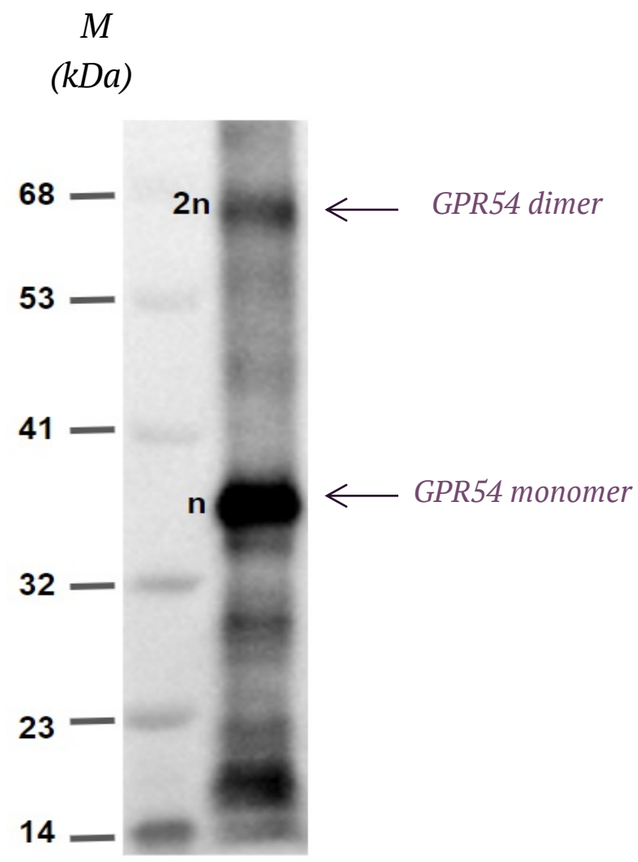


Fig.1: *Identification of GPR54 in the proteoliposomes by Western Blot using an anti-6xHis antibody.*

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

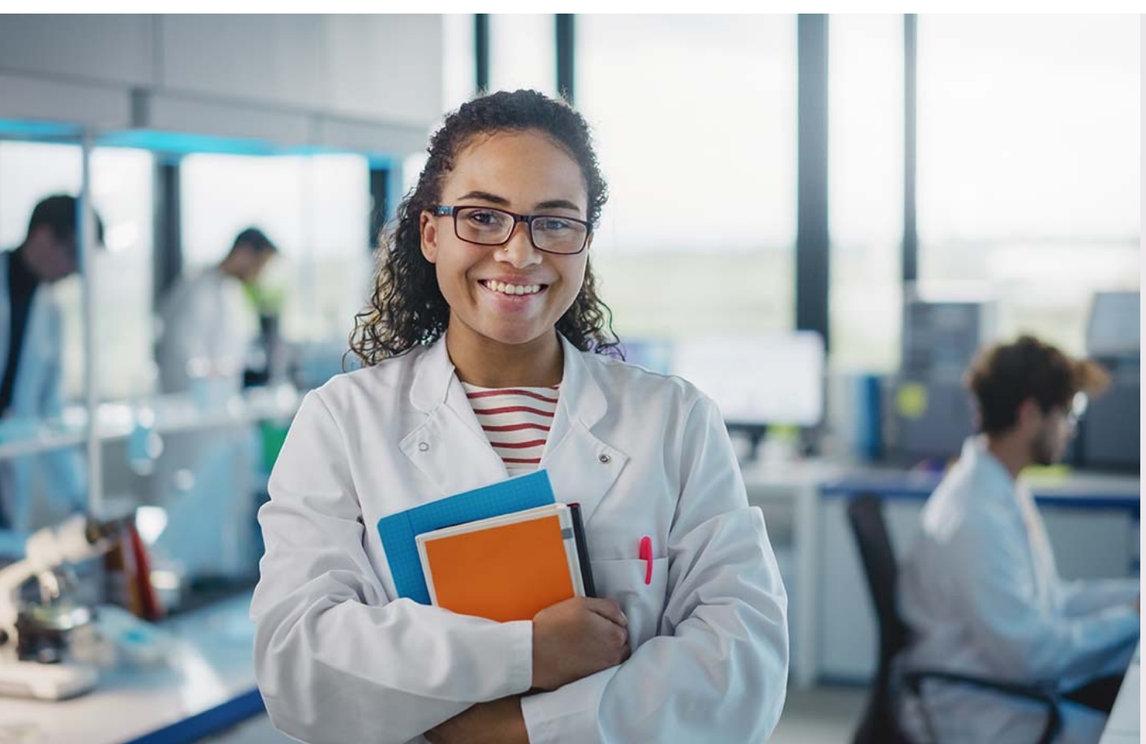
Buffer: Available in Hepes 50mM, pH 7.5 with cryoprotectants. Other buffers or customized formulation can be provided upon request.

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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