Glypican-3/GPC3 Protein, Human (HEK293, His-Myc)

Cat. No.:	HY-P700414
Synonyms:	Glypican-3; GTR2-2; Intestinal protein OCI-5; MXR7; GPC3; OCI5
Species:	Human
Source:	HEK293
Accession:	P51654 (Q25-H559, G537R)
Gene ID:	2719
Molecular Weight:	65 kDa

PROPERTIES

AA Sequence

Q P P P P P P D A T C H Q V R S F F Q R L Q P G L K W V P E T P V P G S D L Q V
C L P K G P T C C S R K M E E K Y Q L T A R L N M E Q L L Q S A S M E L K F L I
I Q N A A V F Q E A F E I V V R H A K N Y T N A M F K N N Y P S L T P Q A F E F
V G E F F T D V S L Y I L G S D I N V D D M V N E L F D S L F P V I Y T Q L M N
P G L P D S A L D I N E C L R G A R R D L K V F G N F P K L I M T Q V S K S L Q
V T R I F L Q A L N L G I E V I N T T D H L K F S K D C G R M L T R M W Y C S Y
C Q G L M M V K P C G G Y C N V V M Q G C M A G V V E I D K Y W R E Y I L S L E
E L V N G M Y R I Y D M E N V L L G L F S T I H D S I Q Y V Q K N A G K L T T T
I G K L C A H S Q Q R Q Y R S A Y Y P E D L F I D K K V L K V A H V E H E E T L
S S R R R E L I Q K L K S F I S F Y S A L P G Y I C S H S P V A E N D T L C W N
G Q E L V E R Y S Q K A A R N G M K N Q F N L H E L K M K G P E P V V S Q I I D
K L K H I N Q L L R T M S M P K G R V L D K N L D E E G F E S G D C G D D E D E
C I G G S G D G M I K V K N Q L R F L A E L A Y D L D V D D A P R N S Q Q A T P
K D N E I S T F H N L G N V H

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of 20 mM Tris-HCl, 0.5 M NaCl, 6% Trehalose, pH 8.0
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	GMP Glypican-3 (GPC3) Protein, a cell surface proteoglycan, orchestrates intricate regulatory roles in key signaling pathways crucial for developmental processes. Through its GPI-anchor, GPC3 negatively modulates the hedgehog signaling pathway by competing with the hedgehog receptor PTC1 for binding to hedgehog proteins, leading to complex internalization and subsequent lysosomal degradation. Simultaneously, it exerts positive regulation on both canonical and non-canonical Wnt signaling pathways by binding to the Wnt receptor Frizzled, enhancing the interaction between Frizzled and Wnt ligands. GPC3 binds to CD81, reducing the availability of free CD81 for binding to the transcriptional repressor HHEX, resulting in nuclear translocation of HHEX and transcriptional repression. Additionally, GPC3 inhibits the dipeptidyl peptidase activity of DPP4. Functionally, GPC3 plays pivotal roles in limb patterning, skeletal development, renal branching morphogenesis, and coronary vascular development. It also modulates the effects of growth factors BMP2, BMP7, and FGF7 on renal branching morphogenesis and contributes to the regulation of cell movements during gastrulation. GPC3 exists as a heterodimer formed by disulfide linkage and interacts with various molecules, including DPP4, FGF2, WNT5A, WNT3A, WNT7B, hedgehog proteins SHH and IHH, and Wnt receptors FZD4, FZD7, and FZD8, showcasing its pivotal role in coordinating developmental processes.

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