Glypican-3/GPC3 Protein, Mouse (sf9, His)

Cat. No.:	HY-P73078
Synonyms:	Glypican-3; GTR2-2; Intestinal protein OCI-5; MXR7; GPC3; OCI5
Species:	Mouse
Source:	Sf9 insect cells
Accession:	Q8CFZ4 (M1-P558)
Gene ID:	14734
Molecular Weight:	Approximately 62 kDa

PROPERTIES

AA Sequence	M A G T V R T A C L L V A M L L G L G C L G Q A Q 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 M M N P G L P E S V L D I N E C L R G A R R D L K V F G S 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 G 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 I 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 N 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 V P K G K V L D K S L D E E G L E S G D C G D D E D E C I G S S G D G M V K V K N Q L R F L A E L A Y D L D V D D A P G N K Q H G N Q K D N E I T T S H S V G N M P
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of 20 mM Tris, 500 mM NaCl, 10% Glycerol, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
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	Glypican-3 (GPC3) Protein, a cell surface proteoglycan, intricately regulates signaling pathways crucial for developmental processes. It 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. Conversely, GPC3 exerts positive regulation on both canonical and non-canonical Wnt signaling pathways. In the canonical Wnt pathway, it binds to the Wnt receptor Frizzled, enhancing the interaction between Frizzled and Wnt ligands. GPC3 also 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 essential roles in limb patterning, skeletal development, renal branching morphogenesis, coronary vascular development, and cell movements during gastrulation. This multifaceted protein 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, highlighting its central role in developmental processes.

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