Vitamin D-binding protein/GC Protein, Human (P.pastoris, His-SUMOstar)

Cat. No.:	HY-P71736
Synonyms:	DBP; DBP/GC; Gc globulin; Gc-globulin; GRD3; Group specific component; Group specific component vitamin D binding protein; Group-specific component; hDBP; VDB
Species:	Human
Source:	P. pastoris
Accession:	P02774 (R19-L474)
Gene ID:	2638
Molecular Weight:	Approximately 67.0 kDa

PROPERTIES

AA Sequence	R G R D Y E K N K V C K E F S H L G K E D F T S L S L V L Y S R K F P S G T F E Q V S Q L V K E V V S L T E A C C A E G A D P D C Y D T R T S A L S A K S C E S N S P F P V H P G T A E C C T K E G L E R K L C M A A L K H Q P Q E F P T Y V E P T N D E I C E A F R K D P K E Y A N Q F M W E Y S T N Y G Q A P L S L L V S Y T K S Y L S M V G S C C T S A S P T V C F L K E R L Q L K H L S L L T T L S N R V C S Q Y A A Y G E K K S R L S N L I K L A Q K V P T A D L E D V L P L A E D I T N I L S K C C E S A S E D C M A K E L P E H T V K L C D N L S T K N S K F E D C C Q E K T A M D V F V C T Y F M P A A Q L P E L P D V E L P T N K D V C D P G N T K V M D K Y T F E L S R R T H L P E V F L S K V L E P T L K S L G E C C D V E D S T T C F N A K G P L L K K E L S S F I D K G Q E L C A D Y S E N T F T E Y K K K L A E R L K A K L P D A T P T E L A K L V N K H S D F A S N C C S I N S P P L Y C D S E I D A E L K N I L
Appearance	Lyophilized powder.
Formulation	Lyophilized after extensive dialysis against solution in Tris-based buffer, 50% glycerol.
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	Vitamin D-binding protein (GC Protein) is a multifunctional protein engaged in various physiological processes. It plays a

pivotal role in the transport and storage of vitamin D, contributing to its systemic availability. Furthermore, GC Protein acts as a scavenger for extracellular G-actin, a crucial function in maintaining cellular homeostasis. In the context of inflammation, it enhances the chemotactic activity of C5 alpha for neutrophils, actively participating in immune responses. Additionally, GC Protein is implicated in macrophage activation, contributing to the orchestration of immune processes. Beyond its immune-related functions, GC Protein associates with membrane-bound immunoglobulin on B-lymphocytes and interacts with the IgG Fc receptor on T-lymphocyte membranes, suggesting its involvement in immune cell interactions. Notably, the interaction with LRP2 is essential for the renal uptake of GC in complex with 25-hydroxyvitamin D3, highlighting its significance in vitamin D metabolism and homeostasis.

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