RGMB Protein, Human (HEK293, His)

Cat. No.:	HY-P76573
Synonyms:	Repulsive guidance molecule B; RGM-B
Species:	Human
Source:	HEK293
Accession:	Q6NW40/J3KNF6 (G46-N413)
Gene ID:	285704
Molecular Weight:	Approximately 42 kDa

PROPERTIES

AA Sequence	G D C Q Q P A Q C R I Q K C T T D F V S L T S H L N S A V D G F D S E F C K A L R A Y A G C T Q R T S K A C R G N L V Y H S A V L G I S D L M S Q R N C S K D G P T S S T N P E V T H D P C N Y H S H A G A R E H R R G D Q N P P S Y L F C G L F G D P H L R T F K D N F Q T C K V E G A W P L I D N N Y L S V Q V T N V P V V P G S S A T A T N K I T I I F K A H H E C T D Q K V Y Q A V T D D L P A A F V D G T T S G G D S D A K S L R I V E R E S G H Y V E M H A R Y I G T T V F V R Q V G R Y L T L A I R M P E D L A M S Y E E S Q D L Q L C V N G C P L S E R I D D G Q G Q V S A I L G H S L P R T S L V Q A W P G Y T L E T A N T Q C H E K M P V K D I Y F Q S C V F D L L T T G D A N F T A A A H S A L E D V E A L H P R K E R W H I F P S S G N
Biological Activity	Measured by its binding ability in a functional ELISA. Immobilized Human BMP-4 at 1 μg/mL (100 μL/well) can bind Biotinylated Human RGM-B. The ED_{50} for this effect is 797.3 ng/mL.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 μm filtered solution of 20 mM PB, 150 mM NaCl, pH 7.4.
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. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
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	RGMB Protein, a member of the repulsive guidance molecule (RGM) family, plays a crucial role in shaping the developing nervous system by contributing to its patterning. Functioning as a bone morphogenetic protein (BMP) coreceptor, RGMB enhances BMP signaling, highlighting its involvement in pivotal cellular processes. Additionally, RGMB promotes neuronal adhesion and may exert an inhibitory effect on neurite outgrowth. Existing as a homooligomer, RGMB interacts with DRGX and forms functional complexes with BMP2, BMP4, ACVR1, BMPR1A, BMPR1B, and ACVR2B, orchestrating a network of interactions critical for cellular signaling. Notably, its complex with the receptor NEO1/neogenin adopts a heterotetrameric structure with a 2:2 stoichiometry, where RGM molecules act as staples, bringing two NEO1 receptors together without direct self-interaction. This unique arrangement facilitates downstream signaling activation via the RhoA pathway, emphasizing RGMB's multifaceted role in orchestrating intricate molecular events during neural development.

Caution: Product has not been fully validated for medical applications. For research use only.

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