Recombinant RGMA protein (His tag)

Catalog Number	538672
Synonyms	RGM domain family member A
Species	Human
Expression System	E. coli
Accession	Q96B86
Molecular Weight	Predictes a molecular mass of 29.27 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 29 kDa band.

Product Information

Sequence Region	169-416
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>86%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 169-416 aa (Q96B86) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	This recombinant protein represents a stable and soluble fragment (residues 169-416) of human Repulsive guidance molecule A (RGMA), a key regulator in neural development and synaptic formation. It is designed for structural and biochemical studies, offering researchers a reliable tool to investigate RGMA's roles in neurite outgrowth inhibition and BMP signaling pathways. Repulsive guidance molecule A (RGMA) is a member of the repulsive guidance molecule family, playing critical roles in the developing and adult nervous system. It regulates cephalic neural tube closure, inhibits neurite outgrowth and cortical neuron branching, and contributes to the formation of mature synapses. RGMA binds to its receptor NEO1/neogenin, activating the RHOA-ROCK1 signaling pathway through the UNC5B-ARHGEF12-PTK2 cascade, leading to growth cone collapse and neurite outgrowth inhibition. Additionally, RGMA binding to NEO1/neogenin inactivates HRAS via the HRAS-PTK2-AKT1 pathway. RGMA also functions as a bone morphogenetic protein (BMP) coreceptor, potentially signaling through SMAD1, SMAD5, and SMAD8. The full-length protein is localized to the cell membrane via a GPI-anchor, underscoring its role in membrane-associated signaling processes.