

RGMA Protein, Human (HEK293, His-Avi)

Cat. No.:	HY-P78508
Synonyms:	RGMA; RGM
Species:	Human
Source:	HEK293
Accession:	Q96B86 (C48-G422)
Gene ID:	56963
Molecular Weight:	45-48 kDa

PROPERTIES

Biological Activity	Immobilized Human RGMA, His Tag at 5µg/ml (100µl/Well) on the plate. Dose response curve for Human Neogenin, hFc Tag with the EC ₅₀ of 0.45µg/ml determined by ELISA.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 µm filtered solution of PBS, pH 7.4. Normally 5% trehalose is added as protectant before lyophilization.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
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	<p>RGMA Protein, a member of the repulsive guidance molecule (RGM) family, plays diverse roles in both the developing and adult nervous system. It governs cephalic neural tube closure, restrains neurite outgrowth, inhibits cortical neuron branching, and modulates the formation of mature synapses. Upon binding to its receptor NEO1/neogenin, RGMA triggers the activation of the RHOA-ROCK1/Rho-kinase signaling pathway through the UNC5B-ARHGEF12/LARG-PTK2/FAK1 cascade, resulting in the collapse of the neuronal growth cone and inhibition of neurite outgrowth. Additionally, RGMA's interaction with NEO1/neogenin influences the HRAS-PTK2/FAK1-AKT1 pathway, leading to HRAS inactivation. Acting as a bone morphogenetic protein (BMP) coreceptor, RGMA may signal through SMAD1, SMAD5, and SMAD8. Its intricate network of interactions, including those with NEO1, BMP2, and BMP4, underscores RGMA's significance in orchestrating key molecular events essential for nervous system development and function.</p>
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Caution: Product has not been fully validated for medical applications. For research use only.

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