Semaphorin-5A/SEMA5A Protein, Human (HEK293, His)

Cat. No.:	HY-P70496
Synonyms:	Semaphorin-5A; Semaphorin-F; Sema F; SEMA5A; SEMAF
Species:	Human
Source:	HEK293
Accession:	Q13591 (E23-T765)
Gene ID:	9037
Molecular Weight:	Approximately 100.0 kDa

PROPERTIES

AA Sequence	E A Q G T T Q C Q R T E H P V I S Y K E I G P W L R E F R A K N A V D F S Q L T F D P G Q K E L V V G A R N Y L F R L Q L E D L S L I Q A V E W E C D E A T K K A C Y S K G K S K E E C Q N Y I R V L L V G G D R L F T C G T N A F T P V C T N R S L S N L T E I H D Q I S G M A R C P Y S P Q H N S T A L L T A G G E L Y A A T A M D F P G R D P A I Y R S L G I L P P L R T A Q Y N S K W L N E P N F V S S Y D I G N F T Y F F F R E N A V E H D C G K T V F S R A A R V C K N D I G G R F L L E D T W T T F M K A R L N C S R P G E V P F Y Y N E L Q S T F F L P E L D L I Y G I F T T N V N S I A A S A V C V F N L S A I A Q A F S G P F K Y Q E N S R S A W L P Y P N P N P H F Q C G T V D Q G L Y V N L T E R N L Q D A Q K F I L M H E V V Q P V T T V P S F M E D N S R F S H V A V D V V Q G R E A L V H I I Y L A T D Y G T I K K V R V P L N Q T S S S C L L E E I E L F P E R R R E P I R S L Q I L H S Q S V L F V G L R E H V V K I P L K R C Q F Y R T R S T C I G A Q D P Y C G W D V V M K K C T S L E E S L S M T Q W E Q S I S A C P T R N L T V D G H F G V W S P W T P C T H T D G S A V G S C L C R T R S C D S P A P Q C G G W Q C E G P G M E I A N C S R N G G W T P W T S W S P C S T T C G I G F Q V R Q R S C S N P T P R H G G R V C V G Q N R E E R Y C N E H L L C P P H M F W T G W G P W E R C T A Q C G G G I Q A R R R I C E N G P D C A G C N V E Y Q S C N T N P C P E L K K T T P W T P W T P V N I S D N G G H Y E Q R F R Y T C K A R L A D P N L L E V G R Q R I E M R Y C S S D G T S G C S T
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	Semaphorin-5A/SEMA5A Protein functions as a bifunctional axonal guidance cue regulated by sulfated proteoglycans, exhibiting attractive effects through interactions with heparan sulfate proteoglycans (HSPGs), and inhibitory effects dependent on interactions with chondroitin sulfate proteoglycans (CSPGs). As a ligand for receptor PLXNB3, SEMA5A plays a crucial role in glioma cells, where its stimulation of PLXNB3 leads to the disassembly of F-actin stress fibers, disruption of focal adhesions, cellular collapse, and the inhibition of cell migration and invasion through ARHGDIA-mediated inactivation of RAC1. Furthermore, SEMA5A may promote angiogenesis by enhancing endothelial cell proliferation and migration while inhibiting apoptosis. The binding of SEMA5A to PLXNB3 underscores its involvement in diverse cellular processes, providing valuable insights into its potential roles in both normal development and pathological conditions, particularly in the context of axon guidance, cell migration, and angiogenesis.

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