

Semaphorin-4A/SEMA4A Protein, Human (HEK293, His)

Cat. No.:	HY-P76056
Synonyms:	Semaphorin-4A; Semaphorin-B; Sema B; Sema4a; Semab; SemB
Species:	Human
Source:	HEK293
Accession:	Q9H3S1 (M1-H683)
Gene ID:	64218
Molecular Weight:	75-80 kDa

PROPERTIES

AA Sequence

M A L P A L G L D P	W S L L G L F L F Q	L L Q L L L P T T T	A G G G G Q G P M P
R V R Y Y A G D E R	R A L S F F H Q K G	L Q D F D T L L L S	G D G N T L Y V G A
R E A I L A L D I Q	D P G V P R L K N M	I P W P A S D R K K	S E C A F K K K S N
E T Q C F N F I R V	L V S Y N V T H L Y	T C G T F A F S P A	C T F I E L Q D S Y
L L P I S E D K V M	E G K G Q S P F D P	A H K H T A V L V D	G M L Y S G T M N N
F L G S E P I L M R	T L G S Q P V L K T	D N F L R W L H H D	A S F V A A I P S T
Q V V Y F F F E E T	A S E F D F F E R L	H T S R V A R V C K	N D V G G E K L L Q
K K W T T F L K A Q	L L C T Q P G Q L P	F N V I R H A V L L	P A D S P T A P H I
Y A V F T S Q W Q V	G G T R S S A V C A	F S L L D I E R V F	K G K Y K E L N K E
T S R W T T Y R G P	E T N P R P G S C S	V G P S S D K A L T	F M K D H F L M D E
Q V V G T P L L V K	S G V E Y T R L A V	E T A Q G L D G H S	H L V M Y L G T T T
G S L H K A V V S G	D S S A H L V E E I	Q L F P D P E P V R	N L Q L A P T Q G A
V F V G F S G G V W	R V P R A N C S V Y	E S C V D C V L A R	D P H C A W D P E S
R T C C L L S A P N	L N S W K Q D M E R	G N P E W A C A S G	P M S R S L R P Q S
R P Q I I K E V L A	V P N S I L E L P C	P H L S A L A S Y Y	W S H G P A A V P E
A S S T V Y N G S L	L L I V Q D G V G G	L Y Q C W A T E N G	F S Y P V I S Y W V
D S Q D Q T L A L D	P E L A G I P R E H	V K V P L T R V S G	G A A L A A Q Q S Y
W P H			

Appearance

Lyophilized powder.

Formulation

Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants 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 ddH₂O.

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-4A (SEMA4A) serves as a cell surface receptor for PLXNB1, PLXNB2, PLXNB3, and PLXND1, playing a pivotal role in cell-cell signaling. This multifaceted protein is implicated in the regulation of glutamatergic and GABAergic synapse development, fostering inhibitory synapses in a PLXNB1-dependent manner and excitatory synapses in a PLXNB2-dependent manner. Additionally, SEMA4A contributes to adaptive immunity by priming antigen-specific T-cells, promoting the differentiation of Th1 T-helper cells, and facilitating the phosphorylation of TIMD2. Furthermore, SEMA4A exerts inhibitory effects on angiogenesis, induces axon growth cone collapse, and hinders axonal extension by providing localized signals that specify territories inaccessible for growing axons. Its intricate role is underscored by interactions with PLXNB1, PLXNB2, PLXNB3, PLXND1, and TIMD2, emphasizing its involvement in diverse cellular processes.

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

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