

## Semaphorin-6A/SEMA6A Protein, Human (HEK293, His)

<b>Cat. No.:</b>	HY-P76057
<b>Synonyms:</b>	Semaphorin-6A; Sema VIA; SEMA6A-1; KIAA1368; SEMAQ
<b>Species:</b>	Human
<b>Source:</b>	HEK293
<b>Accession:</b>	Q9H2E6 (G19-T649)
<b>Gene ID:</b>	57556
<b>Molecular Weight:</b>	Approximately 85-110 kDa

### PROPERTIES

#### AA Sequence

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

**Biological Activity** Measured by its ability to inhibit the proliferation of HUVEC human umbilical vein endothelial cells. The ED<sub>50</sub> for this effect is 6.389 µg/mL, corresponding to a specific activity is 1.565×10<sup>2</sup> U/mg.

**Appearance** Lyophilized powder

**Formulation** Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.

**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<sub>2</sub>O. 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-6A (SEMA6A) is a cell surface receptor for PLXNA2, crucial in cell-cell signaling and with significant involvement in various developmental processes. It is essential for normal granule cell migration in the developing cerebellum and plays a pivotal role in axon guidance within the central nervous system by promoting actin cytoskeleton reorganization. Functioning as a repulsive axon guidance cue, SEMA6A exhibits a repulsive action toward migrating granular neurons. Additionally, it may contribute to the channeling of sympathetic axons into sympathetic chains and regulate the temporal sequence of sympathetic target innervation. In the context of microbial infection, SEMA6A acts as a receptor for *P. sordellii* toxin TcsL in the vascular endothelium. This multifaceted protein thus plays a critical role in orchestrating cellular movements and axonal guidance during development and in response to microbial challenges.

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

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