

Semaphorin 3A (SEMA3A) Active Protein | SEMA3A active protein

Active Semaphorin 3A (SEMA3A)

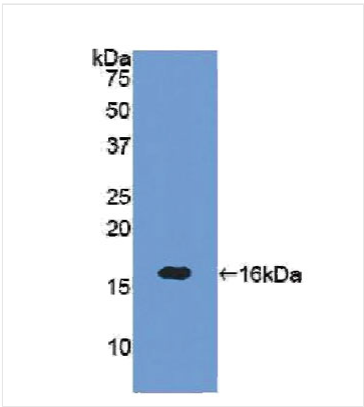
CATALOG # AAA148218	HOST E. coli	APPLICATIONS Activity Assay, Cell Culture
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PRODUCT SYNONYMS

Semaphorin 3A (SEMA3A); Active Semaphorin 3A (SEMA3A); SEMAL; Hsema-I; Hsema-III; SEMA1; SEMAD; SEMAIII; SemD; Coll-1; Sema Domain; Immunoglobulin Domain(Ig); Transmembrane Domain(TM)and Short Cytoplasmic Domain 3A; SEMA3A active protein

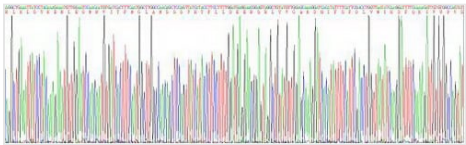
PRODUCT SPECIFICATIONS

Host	E. coli
Purity/Purification	>92%
Form/Format	20mM Tris, 150mM NaCl, pH8.0, containing 1mM EDTA, 1mM DTT, 0.01% SKL, 5% Trehalose and Proclin300.
Applicable Applications for SEMA3A active protein	Activity Assay, Cell Culture
Source	Prokaryotic expression.
Residues	Arg31~Cys141
Tags	N-terminal His-tag
Endotoxin Level	<1.0EU per 1ug (determined by the LAL method).
Predicted isoelectric point	8.9
Usage	Reconstitute in 20mM Tris, 150mM NaCl (pH8.0) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
Preparation and Storage	Storage: Avoid repeated freeze/thaw cycles. Store at 2-8°C for one month. Aliquot and store at -80°C for 12 months. Stability Test: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37°C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.



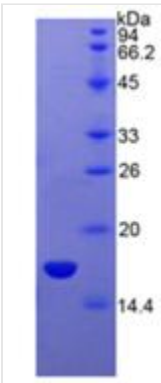
WB (Western Blot)

Figure 4. Western BlotSample: Recombinant SEMA3A, Human;Antibody: Rabbit Anti-Human SEMA3A Ab



Gene Sequencing

Gene Sequencing (extract)



SDS_PAGE

SDS-PAGESample: Active recombinant SEMA3A, Human

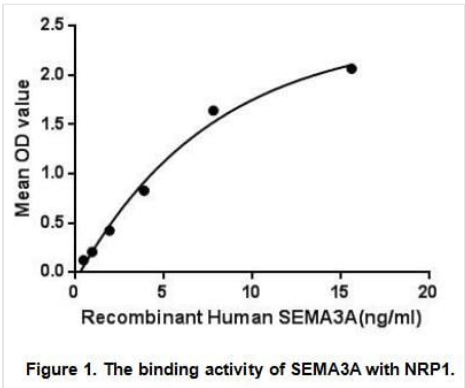


Figure 1. The binding activity of SEMA3A with NRP1.

Bioactivity

The Semaphorin 3A (SEMA3A) which belongs to the semaphorin family can function as either a chemorepulsive agent, inhibiting axonal outgrowth, or as a chemoattractive agent, stimulating the growth of apical dendrites. In both cases, the protein is vital for normal neuronal pattern development. Semaphorin 3A is secreted protein containing a Sema domain, an immunoglobulin C2-like domain and a basic domain near the carboxyl tail. It can be secreted by neurons and surrounding tissue to guide migrating cells and axons in the developing nervous system. Besides, Neuropilin 1 (NRP1) has been identified as an interactor of SEMA3A, thus a binding ELISA assay was conducted to detect the interaction of recombinant human SEMA3A and recombinant human NRP1. Briefly, SEMA3A were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100uL were then transferred to NRP1-coated microtiter wells and incubated for 2h at 37 degree C. Wells were washed with PBST and incubated for 1h with anti-SEMA3A pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37 degree C. Finally, add 50uL stop solution to the wells and read at 450nm immediately. The binding activity of SEMA3A and NRP1 was shown in Figure 1, and this effect was in a dose dependent manner.

Sequence

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LANSSSYHTF LLDEERSRLY VGAKDHFSF RLKLSYKEML ESNNVITFNG
DECKWAGKDI LKECANFIKV LKAYNQTHLY ACGTGAHPPI C
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ADDITIONAL INFORMATION

Product Categories/Family for SEMA3A active protein	CD & Adhesion molecule
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NCBI AND UNIPROT INFORMATION

NCBI GI #	5174673
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NCBI GeneID	10371
NCBI Accession #	NP_006071.1
NCBI GenBank Nucleotide #	NM_006080.2
UniProt Accession #	Q14563
Molecular Weight	Predicted Molecular Mass: 16.6kDa Accurate Molecular Mass: 16kDa as determined by SDS-PAGE reducing conditions.
NCBI Official Full Name	semaphorin-3A
NCBI Official Synonym Full Names	semaphorin 3A
NCBI Official Symbol	SEMA3A
NCBI Official Synonym Symbols	HH16; SemD; COLL1; SEMA1; SEMAD; SEMAL; coll-1; Hsema-I; SEMAIII; Hsema-III
NCBI Protein Information	semaphorin-3A
UniProt Protein Name	Semaphorin-3A
UniProt Gene Name	SEMA3A
UniProt Synonym Gene Names	SEMAD; Sema III

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/e-coli-active-protein/semaphorin-3a-sema3a/148218>