

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

Active Semaphorin 3A (SEMA3A)

CATALOG # AAA161937	HOST E Coli	APPLICATIONS Activity Assay, Cell Culture
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PRODUCT SYNONYMS

Semaphorin 3A (SEMA3A); Active Semaphorin 3A (SEMA3A); Semaphorin 3A; SEMAL; Hsema-I; Hsema-III; SEMA1; SEMAD; SEMAIII; SemD; Coll-1; Sema Domain; Immunoglobulin Domain(Ig); Transmembrane Domain(TM)and Short Cytoplasmic Domain 3A4; SEMA3A active protein

PRODUCT SPECIFICATIONS

Host	E Coli
Purity/Purification	Greater than 90% by SDS-PAGE
Form/Format	Freeze-dried powder; PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
Sequence	Arg31~Pro1 50
Applicable Applications for SEMA3A active protein	Activity Assay, Cell Culture
Species	Rat
Expression System	Prokaryotic expression
Tag	N-terminal His Tag
Endotoxin Level	<1.0EU per 1ug (determined by the LAL method)
Isoelectric Point	8.9
Research Area	CD & Adhesion molecule
Preparation and Storage	Store at 2-8 degree C for one month, -80 degree C for 12 months

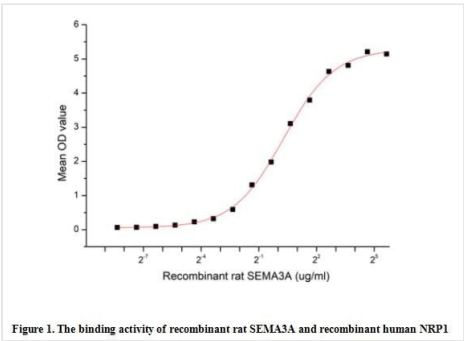


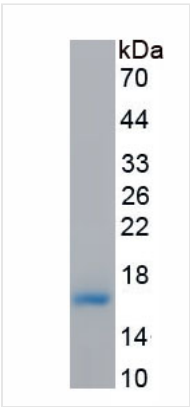
Figure 1. The binding activity of recombinant rat SEMA3A and recombinant human NRP1

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 functional binding ELISA assay was conducted to detect the interaction of recombinant rat SEMA3A and recombinant human NRP1. Briefly, SEMA3A were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 ul 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 50 ul stop solution to the wells and read at 450 nm immediately. The binding activity of recombinant rat SEMA3A and recombinant human NRP1 was shown in Figure 1, the EC50 for this effect is 1.22 ug/mL.

SDS-PAGE

Figure. SDS-PAGE



ADDITIONAL INFORMATION

Product Categories/Family for SEMA3A active protein	Active proteins
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NCBI AND UNIPROT INFORMATION

NCBI GI #	8394255
NCBI GeneID	29751
NCBI Accession #	NP_059006.1
NCBI GenBank Nucleotide #	NM_017310.1
UniProt Accession #	Q63548
Molecular Weight	88,808 Da
NCBI Official Full Name	semaphorin-3A
NCBI Official Synonym Full Names	semaphorin 3A
NCBI Official Symbol	Sema3a
NCBI Protein Information	semaphorin-3A
UniProt Protein Name	Semaphorin-3A
UniProt Gene Name	Sema3a
UniProt Synonym Gene Names	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/161937>