

Recombinant Human NCAM-1/CD56 Fc Chimera Protein, Insect Cells Derived

#R00603

Size: 5 µg/100 µg/500 µg

Stability & Storage

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.



Warning: This product is intended for scientific research only. It is not to be used for medical or diagnostic procedures in humans or animals, nor as a food, cosmetic, or household product.

Background

Neural cell adhesion molecule 1 (NCAM-1) is a multifunctional member of the Ig superfamily. It belongs to a family of membrane-bound glycoproteins that are involved in Ca⁺⁺ independent cell matrix and homophilic or heterophilic cell-cell interactions. NCAM-1 specifically binds to heparan sulfate proteoglycans, the extracellular matrix protein agrin, and several chondroitin sulfate proteoglycans that include neurocan and phosphocan. There are three main forms of human NCAM-1 that arise by alternate splicing. These are designated NCAM-120/NCAM-1 (761 amino acids [aa]), NCAM- 140 (848 aa), and NCAM-180 (1120 aa). NCAM-120 is GPI-linked, while NCAM- 140 and NCAM-180 are type I transmembrane glycoproteins. Additional alternate splicing adds considerable diversity to all three forms, and extracellular proteolytic processing is possible for NCAM-180. NCAM-1 is synthesized as a 761 aa preproprecursor that contains

a 19 aa signal sequence, a 722 aa GPI-linked mature region, and a 20 aa C-terminal prosegment. The molecule contains five C-2 type Ig-like domains and two fibronectin type-III domains. Human to mouse, NCAM-1 is 93% aa identical. NCAM-1 appears to be highly sialylated. The polysialylation of NCAM-1 reduces its adhesive property and increases its neurite outgrowth promoting features. NCAM-1 in the adult brain shows a decline of sialylation relative to earlier developmental periods. In regions that retain a high degree of neuronal plasticity, however, the adult brain continues to express polysialylation-NCAM-1, suggesting sialylation of NCAM-1 is involved in regenerative processes and synaptic plasticity.

AA Sequence

AGMGMLQVDIVPSQGEISVGESKFFLCQVAGDAKDK
DISWFSPNGEKLTPNQQRISVVWNDDSSSTLTIYNANI
DDAGIYKCVVTGEDGSESEATVNVKIFQKLMFKNAPT
PQEFREGEDAVIVCDVVSSLPPTIIWKHKGRDVILKGD

VRFIVLSNNYLQIRGIKKTDEGTYRCEGRILARGEINF
KDIQVIVNVPPTIQARQNVNATANLGQSVTLVCD AEG
FPEPTMSWTKDGEQIEQEEDDEKYIFSDDSSQLTIKK
VDKNDEAEYICIAENKAGEQDATIHLKVFAKPKITYVE
NQTAMELEEQVTLTCEASGDPIPSITWRTSTRNISSEE
KASWTRPEKQETLDGHMVVRSHARVSSLTLKSIQYT
DAGEYICTASNTIGQDSQSMYLEVQYAPKLQGPVAVY
TWEGNQVNITCEVFAYPSATISWFRDQQLLPSSNYSN
IKIYNTPSASYLEVTPDSENDGNYNCTAVNRIGQESL
EFILVQADTPSSPSIDQVEPYSSSTAQVQFDEPEATGG
VPILKYKAEWRAVGEEVWHSKWYDAKEASMEGIVTI
VGLKPETTYAVRLAALNGKGLGEISAASEFKTQPVQG
EPSAPKLEGQMGEDGNSIKVNLIKQDDGGSPIRHYLV
RYRALSSEWKPEIRLPSGSDHVMLKSLDWNAEYEVY
VVAENQQGKSAAHFVFR TSAQPTAIPANGSPTS GIE
GRMDEPKSSDKTHTCPPCPAPEFEGAPSVFLFPKP
KDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVE
VHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEY
KCKVSNKALPPTPIEKTISKAKGQPREPQVYTLPPSRD

ELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT
TPPVLDSGDGSFFLYSKLTVDKSRWQQGNVFCFSVMH
EALHNHYTQKSLSLSPGK

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions.

Product Specification	
Species	Human
Source	Insect Cells
Tags	Fc
Molecular Weight	Approximately 104.7 kDa on SDS-PAGE under reducing conditions, containing 942 amino acids.
Purity	> 90 % by SDS-PAGE analyses.
Biological Activity	Testing in progress.
Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS, pH 7.0, with 5 % Trehalose, 0.02 % Tween-20.
Endotoxin	Less than 0.1 EU/μg of rHuNCAM-1/CD56-Fc as

Shipping	determined by LAL method.
	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.