NCAM-1/CD56 Protein, Human (HEK293, His, solution)

Cat. No.:	HY-P75933
Synonyms:	CD56; CD56 antigen; MSK39; N-CAM-1; neural cell adhesion molecule 1; NCAM
Species:	Human
Source:	HEK293
Accession:	P13591-3 (L20-P603)
Gene ID:	4684
Molecular Weight:	Approximately 66.1 kDa

PROPERTIES

Appearance	Solution.
Formulation	Supplied as a 0.2 μm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background

Neural cell adhesion molecule 1 (NCAM1) is a cell adhesion molecule which is a member of the immunoglobulin superfamily and enables LRR domain binding activity and phosphatase binding activity, participating homotypic cell-cell adhesion, positive regulation of calcium-mediated signaling, and regulation of exocyst assembly.

NCAM1 is involved in cell-to-cell interactions as well as cell-matrix interactions during development and differentiation, playing a role in the development of the nervous system by regulating neurogenesis, neurite outgrowth, and cell migration. NCAM1 is also involved in commissural neuron axon guidance and regulation of semaphorin-plexin signaling pathway. Moreover, NCAM1 is associated with the expansion of T lymphocytes, B lymphocytes and natural killer (NK) cells which play an important role in immune surveillance. NCAM1 plays a role in signal transduction by interacting with fibroblast growth factor receptors, N-cadherin and other components of the extracellular matrix and by triggering signalling cascades involving FYN-focal adhesion kinase (FAK), mitogen-activated protein kinase (MAPK), and phosphatidylinositol 3-kinase (PI3K).

NCAM1 gene has multiple protein isoforms through alternative splicing. One prominent isoform of NCAM1 is cell surface molecule CD56, which plays a role in several myeloproliferative disorders such as acute myeloid leukemia and differential expression of CD56 is associated with differential disease progression. For example, increased expression of CD56 is correlated with lower survival in acute myeloid leukemia patients whereas increased severity of COVID-19 is correlated with decreased abundance of CD56-expressing NK cells in peripheral blood.

	NCAM1 also acts as a receptor for rabies virus and Zika virus[1][2].

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