

## FITC-Labeled NCAM-1/CD56 Protein, Human (HEK293, His)

Cat. No.:	HY-P78648
Synonyms:	CD56; MSK39; NCAM1; N-CAM-1
Species:	Human
Source:	HEK293
Accession:	P13591-2 (L20-G718)
Gene ID:	4684
Molecular Weight:	90-116 kDa

### PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized a 0.22 µm filtered solution of 50 mM Tris, 500 mM NaCl, pH8.0. Normally trehalose is added as protectant before lyophilization.
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 1 year, protect from light. 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

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

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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<sup>[1][2]</sup>.

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

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