

## FITC-Labeled Siglec-3/CD33 Protein, Human (HEK293, Fc)

Cat. No.:	HY-P701262
Synonyms:	CD33; SIGLEC3; gp67
Species:	Human
Source:	HEK293
Accession:	P20138 (D18-H259)
Gene ID:	945
Molecular Weight:	70-90 kDa

### PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from 0.22 $\mu$ m filtered solution of PBS, pH7.4 with trehalose as protectant.
Endotoxin Level	<1 EU/ $\mu$ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 $\mu$ g/mL in ddH <sub>2</sub> O.
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	<p>The Siglec-3/CD33 protein, a sialic-acid-binding immunoglobulin-like lectin, plays a crucial role in mediating cell-cell interactions and maintaining immune cells in a resting state. It exhibits a preference for recognizing and binding alpha-2,3- and more avidly alpha-2,6-linked sialic acid-bearing glycans. Upon engagement with ligands like C1q or sialylated glycoproteins, two immunoreceptor tyrosine-based inhibitory motifs (ITIMs) within CD33's cytoplasmic tail undergo phosphorylation by Src-like kinases such as LCK. These phosphorylated ITIMs serve as docking sites for recruiting and activating protein-tyrosine phosphatases PTPN6/SHP-1 and PTPN11/SHP-2, which, in turn, regulate downstream pathways through dephosphorylation of signaling molecules. CD33's repressive effect on monocyte activation involves phosphoinositide 3-kinase/PI3K. Structurally, the protein forms homodimers through disulfide linkages and interacts with PTPN6/SHP-1 and PTPN11/SHP-2 upon phosphorylation. It also engages with C1QA via its C-terminus, activating CD33 inhibitory motifs.</p>
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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