

## Product datasheet for **SC315982**

### CD33 (NM\_001082618) Human Untagged Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** CD33 (NM\_001082618) Human Untagged Clone  
**Tag:** Tag Free  
**Symbol:** CD33  
**Synonyms:** p67; SIGLEC-3; SIGLEC3  
**Mammalian Cell Selection:** None  
**Vector:** pCMV6-XL5  
**E. coli Selection:** Ampicillin (100 ug/mL)

**Fully Sequenced ORF:** >OriGene sequence for NM\_001082618 edited  
 CAGACATGCCGCTGCTGCTACTGCTGCCCCCTGCTGTGGGCAGACTTGACCCACAGGCCCA  
 AAATCCTCATCCCTGGCACTCTAGAACCAGGCCACTCCAAAAACCTGACCTGCTCTGTG  
 CCTGGGCTGTGAGCAGGGAACACCCCGATCTTCTCCTGGTTGTGAGCTGCCCCACCT  
 CCCTGGGCCCCAGGACTACTCACTCCTCGGTGCTCATAATCACCCACAGGCCCCAGGACC  
 ACGGCACCAACCTGACCTGTGAGTGAAGTTCGCTGGAGCTGGTGTGACTACGGAGAGAA  
 CCATCCAGCTCAACGTCACCTATGTTCCACAGAACCAACAACCTGGTATCTTTCCAGGAG  
 ATGGCTCAGGAAACAAGAGACCAGAGCAGGAGTGGTTCATGGGGCCATTGGAGGAGCTG  
 GTGTTACAGCCCTGCTCGCTCTTTGTCTCTGCCTCATCTTTCATAGTGAAGACCCACA  
 GGAGGAAAGCAGCCAGGACAGCAGTGGGCAGGAATGACACCCACCCTACCACAGGTCAG  
 CCTCCCCGAAACACCAGAAGAAGTCCAAGTTACATGGCCCCACTGAAACCTCAAGCTGTT  
 CAGGTGCCGCCCTACTGTGGAGATGGATGAGGAGCTGCATTATGCTTCCCTCAACTTTC  
 ATGGGATGAATCCTTCCAAGGACACCTCCACCGAATACTCAGAGGTGAGGACCCAGTGAG  
 GAACCCACAAGAGCATCAGGCTCAGCTAGAAGATCCACATCCTCTACAGGTCGGGGACCA  
 AAGGCTGATTCTTGGAGATTTAACACCCACAGGCAATGGGTTTATAGACATTATGTGAG  
 TTTCTGCTATATTAACATCATCTTAGACTTTGCAAGCAGAGAGTCGTGGAATCAAATCT  
 GTGCTCTTTCATTTGCTAAGTGTATGATGTCACACAAGCTCCTAACCTTCCATGTCTCC  
 ATTTTCTTCTCTGTGAAGTAGGTATAAGAAGTCCTATCTCATAGGGATGCTGTGAGCATT  
 AAATAAAGGTACACATGGAAAACAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA  
 AA

**Restriction Sites:** Please inquire  
**ACCN:** NM\_001082618  
**Insert Size:** 1000 bp



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**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

**OTI Annotation:** The ORF of this clone has been fully sequenced and found to be a perfect match to NM\_001082618.1.

**Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

**Reconstitution Method:**

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

**RefSeq:** [NM\\_001082618.1](#), [NP\\_001076087.1](#)

**RefSeq Size:** 1085 bp

**RefSeq ORF:** 714 bp

**Locus ID:** 945

**UniProt ID:** [P20138](#)

**Cytogenetics:** 19q13.41

**Protein Families:** Druggable Genome, Transmembrane

**Protein Pathways:** Hematopoietic cell lineage

**Gene Summary:**

Sialic-acid-binding immunoglobulin-like lectin (Siglec) that plays a role in mediating cell-cell interactions and in maintaining immune cells in a resting state (PubMed:10611343, PubMed:15597323, PubMed:11320212). Preferentially recognizes and binds alpha-2,3- and more avidly alpha-2,6-linked sialic acid-bearing glycans (PubMed:7718872). Upon engagement of ligands such as C1q or sialylated glycoproteins, two immunoreceptor tyrosine-based inhibitory motifs (ITIMs) located in CD33 cytoplasmic tail are phosphorylated by Src-like kinases such as LCK (PubMed:28325905, PubMed:10887109). These phosphorylations provide docking sites for the recruitment and activation of protein-tyrosine phosphatases PTPN6/SHP-1 and PTPN11/SHP-2 (PubMed:10556798, PubMed:10206955, PubMed:10887109). In turn, these phosphatases regulate downstream pathways through dephosphorylation of signaling molecules (PubMed:10206955, PubMed:10887109). One of the repressive effect of CD33 on monocyte activation requires phosphoinositide 3-kinase/PI3K (PubMed:15597323). [UniProtKB/Swiss-Prot Function]

Transcript Variant: This variant (2) lacks an alternate in-frame exon in the 5' coding region, compared to variant 1, resulting in a shorter protein (isoform 2, also known as CD33m), compared to isoform 1.