

Product datasheet for **RC207023**

CD33 (NM_001772) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CD33 (NM_001772) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	CD33
Synonyms:	p67; SIGLEC-3; SIGLEC3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC207023 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGCCGCTGCTGCTACTGCTGCCCTGCTGTGGGCAGGGGCCCTGGCTATGGATCCAAATTTCTGGCTGC
AAGTGCAGGAGTCAGTGACGGTACAGGAGGTTTGTGCGTCTCGTGCCCTGCACTTTCTCCATCCCAT
ACCCTACTACGACAAGAAGTCCCGAGTTACGGTACTGGTTCGGGAAGGAGCCATTATATCCGGGGAC
TCTCCAGTGGCCACAAACAAGCTAGATCAAGAAGTACAGGAGGAGACTCAGGGCAGATCCGCCTCCTTG
GGGATCCCAGTAGGAACAAGTCCCTGAGCATCGTAGACGCCAGGAGGAGGATAATGGTTCATACTT
CTTTCGGATGGAGAGAGGAAGTACCAAATACAGTTACAAATCTCCCCAGCTCTCTGTGCATGTGACAGAC
TTGACCCACAGGCCAAAATCCTCATCCCTGGCACTCTAGAACCAGGCCACTCCAAAAACCTGACCTGCT
CTGTGTCTGGGCTGTGAGCAGGGAACACCCCGATCTTCTCCTGGTGTGACGTGCCCCACCTCCCT
GGGCCCCAGGACTACTACTCCTCGGTGCTATAATCACCCACGGCCCCAGGACCACGGCACCAACCTG
ACCTGTCAGGTGAAGTTCGCTGGAGCTGGTGTGACTACGGAGAGAACCATCCAGCTCAACGTACCTATG
TTCCACAGAACCAACAAGTGGTATCTTCCAGGAGATGGCTCAGGGAACAAGAGACCAGAGCAGGAGT
GGTTCATGGGGCATTGGAGGAGCTGGTGTACAGCCCTGCTCGCTCTTGTCTGCTCATCTTCTTC
ATAGTGAAGACCCACAGGAGGAAAGCAGCCAGGACAGCAGTGGGCAGGAATGACACCCACCTACCCAG
GGTCAGCCTCCCCGAAACACCAGAAGAAGTCCAAGTTACATGGCCCCACTGAAACCTCAAGCTGTTACAG
TGCCGCCCTACTGTGGAGATGGATGAGGAGCTGCATTATGCTTCCCTCAACTTTCATGGGATGAATCCT
TCCAAGGACACCTCCACCGAATACTCAGAGGTCAGGACCCAG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTAA



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Protein Sequence: >RC207023 protein sequence
Red=Cloning site Green=Tags(s)

MPLLLLLPLLLWAGALAMPNFWLQVQESVTVQEGLCVLPCTFFHPIPYDYKNSPVHGYWFREGAIIISGD
 SPVATNKLDQEVQEETQGRFRLLGDP SRNNCSLSIVDARRRDNGSYFFRMERGSKYSYKSPQLSVHVTD
 LTHRPKILIPGTLEPGHKNL TCSVSWACEQGT PPIFSWL SAAPTSLGPRTHSSVLIITPRPQDHGTNL
 TCQVKFAGAGVTTERTIQLNVTYVPQNPTTGIFFPGDGSKGQETRAGVVHGAIGGAGVTALLALCLCLIFF
 IVKTHRRKAARTAVGRNDTHPTTGSASPKHQKSKLHGPTETSSCSGAAPTVMDEELHYASLNFHGMNP
 SKDTSTEYSEVRTQ

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6136_a09.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



* The last codon before the Stop codon of the ORF

ACCN: NM_001772

ORF Size: 1092 bp

OTI Disclaimer: 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: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

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_001772.2](#), [NP_001763.2](#)

RefSeq Size: 1466 bp

RefSeq ORF: 1095 bp

Locus ID: 945

UniProt ID: [P20138](#)

Cytogenetics: 19q13.41

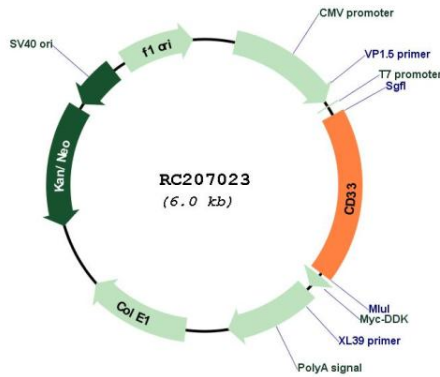
Protein Families: Druggable Genome, Transmembrane

Protein Pathways: Hematopoietic cell lineage

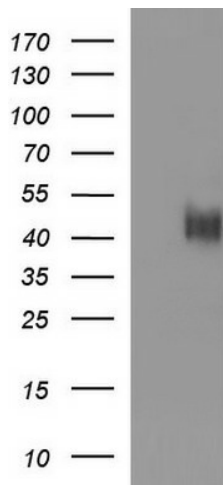
MW: 39.7 kDa

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]

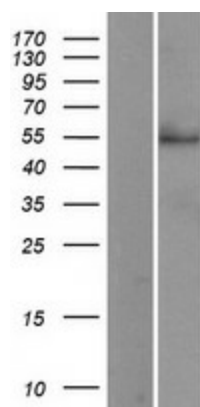
Product images:



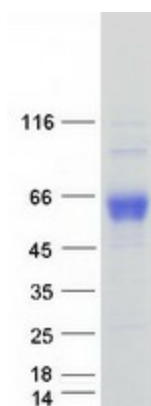
Circular map for RC207023



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY CD33 (Cat# RC207023, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-CD33(Cat# [TA506294]). Positive lysates [LY400667] (100ug) and [LC400667] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY400667]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC207023 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CD33 protein (Cat# [TP307023]). The protein was produced from HEK293T cells transfected with CD33 cDNA clone (Cat# RC207023) using MegaTran 2.0 (Cat# [TT210002]).