

## Product datasheet for **RC600014**

### CD117 (NM\_000222) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	CD117 (NM_000222) Human Tagged ORF Clone
Tag:	DDK-His
Symbol:	CD117
Synonyms:	C-Kit; CD117; MASTC; PBT; SCFR
Mammalian Cell Selection:	None
Vector:	pCMV6-XL5-DDK-His (PS100068)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RC600014 representing leader sequence plus the extracellular domain region of NM\_000222

Red=Cloning site Blue=ORF Green=Tags(s)

GTAATACGACTCACTATAGGGCGGCCGGAATTCGTGACTGGATCTGGTACCGAGGAGATCCGCCGCCG  
CGATCGCC

ATGAGAGGCGCTCGGGCGCCTGGGATTTCTCTGCGTTCTGCTCTACTGCTTCGCGTCCAGACAGGCT  
CTTCTCAACCATCTGTGAGTCCAGGGGAACCGTCTCCACCATCCATCCAGGAAAATCAGACTTAAT  
AGTCCGCGTGGGCGACGAGATTAGGCTGTTATGCACTGATCCGGGCTTTGTCAAATGGACTTTTGAGATC  
CTGGATGAAACGAATGAGAATAAGCAGAATGAATGGATCACGAAAAGGCAGAAGCCACCAACACCGGCA  
AATACACGTGCACCAACAAACACGGCTTAAGCAATTCATTTATGTGTTGTTAGAGATCCTGCCAAGCT  
TTTCTTGTGACCGCTCCTGTATGGGAAAGAAGACAACGACACGCTGGTCCGCTGTCTCTCACAGAC  
CCAGAAGTGACCAATTATCCCTCAAGGGGTGCCAGGGGAAGCCTTTCCAAGGACTTGAGGTTTATTC  
CTGACCCCAAGGGGGCATCATGATCAAAAGTGTGAAACGCGCCTACCATCGGCTCTGTCTGCATTGTC  
TGTGGACCAGGAGGGCAAGTCAAGTGTGCGGAAAATTCATCCTGAAAGTGAGGCCAGCCTTCAAAGCT  
GTGCCTGTTGTGCTGTGTCCAAGCAAGCTATCTTCTAGGGAAGGGGAAGAATTCACAGTGACGTGCA  
CAATAAAGATGTGTCTAGTTCTGTGACTCAACGTGGAAAAGAGAAAACAGTCAGACTAAACTACAGGA  
GAAATATAATAGCTGGCATCACGGTGACTTCAATTATGAACGTGACGGCAACGTTGACTATCAGTTACGG  
AGAGTTAATGATTCTGGAGTGTTATGTGTTATGCCAATAATACTTTTGGATCAGCAAATGTCACAAACA  
CCTTGGAAAGTAGATAAAGGATTCATTAATATCTTCCCATGATAAACACTACAGTATTTGTAACGA  
TGGAGAAAATGTAGATTTGATTGTTGAATGAAGCATTCCCAAACCTGAACACCAGCAGTGGATCTAT  
ATGAACAGAACCCTCACTGATAAATGGGAAGATTATCCCAAGTCTGAGAATGAAAGTAATATCAGATACG  
TAAGTGAACCTCATCTAACGAGATTAAGGACCCGGAAGGAGGCACTTACACATTCTAGTGTCCAATTC  
TGACGTCAATGCTGCCATAGCATTAAATGTTTATGTGAATACAAAACCAGAAATCCTGACTTACGACAGG  
CTCGTGAATGGCATGCTCCAATGTGTGGCAGCAGGATTCCAGAGCCACAATAGATTGGTATTTTTGTC  
CAGGAAGTGGCAGAGATGCTCTGCTTCTGACTGCCAGTGGATGTGCAGACACTAAACTCATCTGGGCC  
ACCGTTTGGAAAGCTAGTGGTTCAGAGTCTATAGATTCTAGTGCATTCAAGCACAATGGCAGGTTGAA  
TGTAAGGCTTACAACGATGTGGCAAGACTTCTGCCTATTTAACTTTGCATTTAAAGGTAACAACAAG  
AGCAAATCCATCCACACCCCTGTTCACTCT

ACGCGTTCAGGGCGACTACAAGGATGACGACGATAAGGGATCTCATCATCACCATCACCTAATGAGATC  
TGGTACCGATATCAAGCTTGTGACTCTAGA

**Protein Sequence:**

>RC600014 representing signal peptide plus the extracellular domain region of NM\_000222

Red=Cloning sites Green= DDK and 6XHIS Tags

MRGARGAWDFLCVLLLLLRVQTGSSQPSVSPGEPSPPSIHPGKSDLIVRVGDEIRLLCTDPPGVKWFTEI  
LDETENKQNEWITEKAEATNTGKYTCTNKHGLSNSIYVVRDPAKLFVDRSLYGEDNDTLVRCPLTD  
PEVTNYSLKGCQKPLPKDLRFIPDPKAGIMIKSVKRAYHRLCLHCSVDQEGKSVLSEKFLKVRPAFKA  
VPVVSVKASYLLREGEEFTVTCTIKDVSSSVYSTWKRENSQTKLQEKYNSWHHGFNYERQATLTSSA  
RVNDSGVFMCIYANNTFGSANVTTLEVVDKGFINIFPMINTTVFVNDGENVDLIVEYEAFFPKPEHQWIY  
MNRFTFDKWEDYPKSESNIRYVSELHLTRLKGTGGTYTFLVNSDVNAIAFNVYVNTKPEILTYDR  
LVNGMLQCYAAGFPEPTIDWYFCPGTEQRCSASVLPVDVQTLNSSGPPFGKLVVQSSIDSSAFKHNGTVE  
CKAYNDVGKTSAYFNFAFKGNNKEQIHPHTLFTP

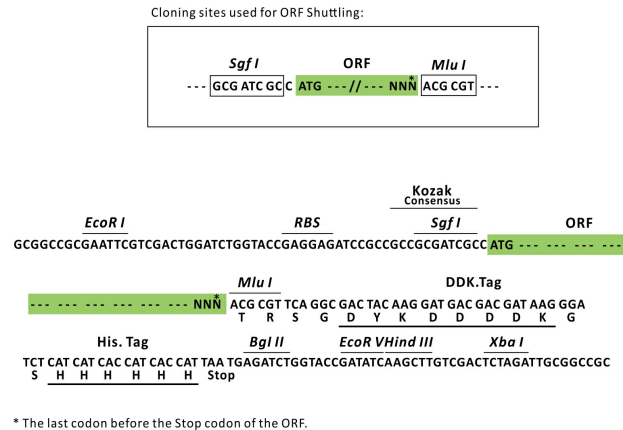
TRSGTRSGDYKDDDDKGSHHHHHH

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk8117\\_d07.zip](https://cdn.origene.com/chromatograms/mk8117_d07.zip)

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


<b>ACCN:</b>	NM_000222
<b>ORF Size:</b>	1572 bp
<b>OTI Disclaimer:</b>	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. <a href="#">More info</a>
<b>OTI Annotation:</b>	This clone was engineered to express the extra cellular domain of the protein with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"> <li>1. Centrifuge at 5,000xg for 5min.</li> <li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li> <li>3. Close the tube and incubate for 10 minutes at room temperature.</li> <li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li> <li>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.</li> </ol>
<b>RefSeq:</b>	<a href="#">NM_000222.2</a> , <a href="#">NP_000213.1</a>
<b>RefSeq Size:</b>	5190 bp
<b>RefSeq ORF:</b>	2931 bp
<b>Locus ID:</b>	3815
<b>UniProt ID:</b>	<a href="#">P10721</a>
<b>Cytogenetics:</b>	4q12

<b>Domains:</b>	ptkinase, TyrKc, S_TKc, ig, IGc2, IG
<b>Protein Families:</b>	Adult stem cells, Druggable Genome, Embryonic stem cells, ES Cell Differentiation/IPS, Protein Kinase, Stem cell - Pluripotency, Transmembrane
<b>Protein Pathways:</b>	Acute myeloid leukemia, Cytokine-cytokine receptor interaction, Endocytosis, Hematopoietic cell lineage, Melanogenesis, Pathways in cancer
<b>MW:</b>	58.9 kDa
<b>Gene Summary:</b>	<p>This gene encodes a receptor tyrosine kinase. This gene was initially identified as a homolog of the feline sarcoma viral oncogene v-kit and is often referred to as proto-oncogene c-Kit. The canonical form of this glycosylated transmembrane protein has an N-terminal extracellular region with five immunoglobulin-like domains, a transmembrane region, and an intracellular tyrosine kinase domain at the C-terminus. Upon activation by its cytokine ligand, stem cell factor (SCF), this protein phosphorylates multiple intracellular proteins that play a role in the proliferation, differentiation, migration and apoptosis of many cell types and thereby plays an important role in hematopoiesis, stem cell maintenance, gametogenesis, melanogenesis, and in mast cell development, migration and function. This protein can be a membrane-bound or soluble protein. Mutations in this gene are associated with gastrointestinal stromal tumors, mast cell disease, acute myelogenous leukemia, and piebaldism. Multiple transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, May 2020]</p>