

## Product datasheet for **SC323577**

### CD117 (NM\_000222) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	CD117 (NM_000222) Human Untagged Clone
Tag:	Tag Free
Symbol:	CD117
Synonyms:	C-Kit; CD117; MASTC; PBT; SCFR
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL4</u>
E. coli Selection:	Ampicillin (100 ug/mL)
Fully Sequenced ORF:	>OriGene ORF within SC323577 sequence for NM_000222 edited (data generated by NextGen Sequencing)

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ATGAGAGGCGCTCGCGGCCTGGGATTTCTCTGCGTTCTGCTCCTACTGCTTCGCGTC
CAGACAGGCTCTTCTCAACCATCTGTGAGTCCAGGGAAACCGTCTCCACCATCCATCCAT
CCAGGAAAATCAGACTTAATAGTCCGCGTGGGCGACGAGATTAGCTGTTATGCACTGAT
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CCAGAAGTGACCAATTATCCCTCAAGGGGTGCCAGGGGAAGCCTTCCCAAGGACTTG
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CTCGTGAATGGCATGCTCAATGTGTGGCAGCAGGATCCAGAGCCACAATAGATTGG
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ACACTAAACTCATCTGGCCACCGTTTGGAAAGCTAGTGGTTCAGAGTTCATAGATTCT
AGTGCATTCAAGCACAATGGCACGGTTGAATGTAAGGCTTACAACGATGTGGCAAGACT

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TCTGCCTATTTAACTTTGCATTTAAAGGTAACAACAAAGAGCAAATCCATCCCCACACC
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ATGATTCTGACCTACAAATATTTACAGAAACCCATGTATGAAGTACAGTGGAAAGTTGTT
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GCTGTAATGATGCTCAAGCCGAGTGCCCATTTGACAGAACGGGAAGCCCTCATGTCTGAA
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AACTGCAGCCCCAACCGACAGAAGCCCGTGGTAGACCATTCTGTGCGGATCAATTCTGTC
GGCAGCACCGCTTCTCCTCCAGCCTCTGCTTGTGCACGACGATGTCTGA
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Clone variation with respect to NM\_000222.2  
1868 a=>t

**5' Read Nucleotide Sequence:**

>OriGene 5' read for mutant NM\_000222 unedited  
ACCGCCGTCCAGCAATGGCGGTAGGCGCTGTACGGTGGGAGTCTATATAAGCAGAGCTCGTTTAGTGA  
ACCGTCAGAATTTTGAATACGACTCACTATAGGGCGGCCGGAATTCGGCACGAGGGTGGACCAGAGCT  
CGGATCCCATCGCAGCTACCGCGATGAGAGGCGCTCGCGCGCCTGGGATTTTCTCTGCGTTCTGCTCCT  
ACTGCTTCGCGTCCAGACAGGCTCTTCTCAACCATCTGTGAGTCCAGGGAAACCGTCTCCACCATCCATC  
CATCCAGGAAAATCAGACTTAATAGTCCGCGTGGGCGACGAGATTAGGCTGTTATGCACTGATCCCGGGC  
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AAAAGGCAGGAAGCCACCAACACACCCCGCCAAATACCACGTGCACCAACCAACACCCGGCTTATAGGC  
CAATTCATTTAGGGTGTGGTTAAGAATTCCTGCCAAGCTTTTCTGGGTTGACGCGCCTTGTGTA  
TGGAAAAAAAACCACCGACCCCGGGTCCCTGTGTCCTCTCAGAAACCCGAAATGTGACCATTATAT  
TCCTCTCAGGGGGCGCGGGGAGGCCCTTTCCAGGGATTGGATGTATATCCCGCAGCCCAAGGCGG  
GACTTCGATATCAAGTGTGTGAAACGCGCATCCTATGCGCCTGCCGCACAGTGTCTGGACACAAAAGCG  
AATCTCTGTTGTGCGAAAATATCCTCAGATGATGCCGCGCTCTCAGATGTGCCGTTGCTGTTCAAC  
AGCGATCTTCTATGAAGGAGGAATATCGGGCTCGCAGTAAAGAATTTGTTTCTGTGATCTACTGGAGAG  
AGAACAGCGAGCATACTACTGAAGATAATGTGCTTTTCTGACTGATGATGCACGCGTCATACTTACGAGC  
AGATCCGAGTGTCTCGCTGAG

**Kinase Domain Sequence:**

>SC323577 kinase domain raw sequence. By performing [BLASTX](#) analysis with this sequence against NCBI reference protein database, you can confirm the presence of the kinase-deficient mutation  
TGKCKGGRCTTCGGGAGGTTGTTGAGGCACTGCTTATGGCTTAATTAAGTCAGATGCGGCCATGACTGTC  
GCTGTAATGATGCTCAAGCCGAGTGCCCATTTGACAGAACGGGAAGCCCTCATGTCTGAACCTCAAAGTCC  
TGAGTTACCTTGGTAATCACATGAATATTGTGAATCTACTTGGAGCCTGCACCATTGGAGGGCCACCCCT  
GGTCATTACAGAATATTGTTGCTATGGTGATCTTTTGAATTTTTT

**Restriction Sites:**

Please inquire

ACCN:	NM_000222
Insert Size:	5400 bp
OTI Disclaimer:	<p>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 <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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></p>
OTI Annotation:	<p>This kinase-deficient mutant clone was generated by created by site-directed mutagenesis from the corresponding wild-type clone. See details in "Application of active and kinase-deficient kinome collection for identification of kinases regulating hedgehog signaling." <a href="#">Cell, 2008 May p536-548.</a></p>
Components:	<p>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).</p>
Reconstitution Method:	<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>
RefSeq:	<a href="#">NM_000222.1</a> , <a href="#">NP_000213.1</a>
RefSeq Size:	5084 bp
RefSeq ORF:	2931 bp
Locus ID:	3815
UniProt ID:	<a href="#">P10721</a>
Cytogenetics:	4q12
Domains:	pkinase, TyrKc, S_TKc, ig, IGc2, IG
Protein Families:	Adult stem cells, Druggable Genome, Embryonic stem cells, ES Cell Differentiation/IPS, Protein Kinase, Stem cell - Pluripotency, Transmembrane

**Protein Pathways:** Acute myeloid leukemia, Cytokine-cytokine receptor interaction, Endocytosis, Hematopoietic cell lineage, Melanogenesis, Pathways in cancer

**Gene Summary:** 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]  
Transcript Variant: This variant (1) represents the longer transcript and encodes the longer isoform (1).