

## Product datasheet for SC123947

### RANKL (TNFSF11) (NM\_003701) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	RANKL (TNFSF11) (NM_003701) Human Untagged Clone
Tag:	Tag Free
Symbol:	RANKL
Synonyms:	CD254; hRANKL2; ODF; OPGL; OPTB2; RANKL; sOdf; TNLG6B; TRANCE
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL4</u>
E. coli Selection:	Ampicillin (100 ug/mL)
Fully Sequenced ORF:	>OriGene ORF within SC123947 sequence for NM_003701 edited (data generated by NextGen Sequencing)

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ATGCGCCGCGCCAGCAGAGACTACACCAAGTACCTGCGTGGCTCGGAGGAGATGGGCGGC
GGCCCCGGAGCCCGCACGAGGGCCCCCTGCACGCCCGCCGCCCTGCGCCGCACCAG
CCCCCGCGCCCTCCCGCTCCATGTTTCGTGGCCCTCCTGGGGCTGGGGCTGGGCCAGGTT
GTCTGCAGCGTCGCCCTGTTCTTCTATTTAGAGCGCAGATGGATCCTAATAGAATATCA
GAAGATGGCACTCACTGCATTTATAGAATTTTGAGACTCCATGAAAATGCAGATTTTCAA
GACACAACCTCTGGAGAGTCAAGATACAAAATTAATACCTGATTCATGTAGGAGAATTA
CAGGCCTTTCAAGGAGCTGTGCAAAGGAATTACAACATATCGTTGGATCACAGCACATC
AGAGCAGAGAAAAGCGATGGTGGATGGCTCATGGTTAGATCTGGCCAAGAGGAGCAAGCTT
GAAGCTCAGCCTTTTGTCTCATCTCACTATTAATGCCACCGACATCCCATCTGGTTCCCAT
AAAGTGAGTCTGTCTCTTGGTACCATGATCGGGGTTGGGCAAGATCTCCAACATGACT
TTTAGCAATGGAAAATAATAGTTAATCAGGATGGCTTTTATTACCTGTATGCCAACATT
TGCTTTTGACATCATGAAACTTCAGGAGACCTAGCTACAGAGTATCTTCAACTAATGGTG
TACGTCACTAAAACCAGCATCAAAATCCCAAGTTCTCATACCCTGATGAAAGGAGGAAGC
ACCAAGTATTGGTCAGGGAATTCGAATTCCATTTTTATTCCATAAACGTTGGTGGATTT
TTAAGTTACGGTCTGGAGAGGAAATCAGCATCGAGGTCTCCAACCCCTCCTTACTGGAT
CCGGATCAGGATGCAACATACTTTGGGGCTTTAAAGTTTCGAGATATAGATTGA

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Clone variation with respect to NM\_003701.3  
126 t=>c



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**5' Read Nucleotide Sequence:** >OriGene 5' read for NM\_003701 unedited  
 CATTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGGCACCAGGCGCGCCCCAGG  
 AGCCAAAGCCGGGCTCCAAGTCGGCGCCCCACGTGAGGCTCCGCCGAGCCTCCGGAGT  
 TGGCCGCAGACAAGAAGGGGAGGGAGCGGGAGAGGGAGAGAGCTCCGAAGCGAGAGGGC  
 CGAGCGCCATGCGCCGCGCCAGCAGAGACTACACCAAGTACCTGCGTGGCTCGGAGGAGA  
 TGGGCGGCGGCCCGGAGCCCCGCACAGAGGGCCCCCTGCACGGCCCCCGCCCGCCTGCC  
 CCGCACCAGCCCCCGCCGCTCCCGCTCCATGTTTCGTGGCCCTCCTGGGGCTGGGGCTG  
 GGCCAGGGTTGTCTGCAGCGTCGCCCTGTTCTTCTATTTCAGAGCGCAGATGGGATCCTA  
 ATAGAATATCAGAAGATGGCACTCACTGCATTTATAGAATTTTGAGACTCCATGAAAATG  
 CAGATTTTCAAGACACAACCTCTGGAGAGTCAAGATACAAAATTAATACCTGGATCATGTA  
 GGAGAATTAACAGGCCCTTCAAGGAGCTGTGCAAAAAGAATTACAACCTATCGTTGGAT  
 CACAGCACAATCGAAGCAGAAGAAAGCGATTGGTGGATGGGCTCAATGGTTTAGATCTGG  
 CCAAGAGGAAGCAAGGCTTGAAACTCAGCCCCTTTGGCTCAATCTTAACATTTAATGCC  
 AACCGAAATTTCCCATCTGGGTTCCCCATAAAAAGTGGAGTCTGTCCTCTTGTTACCCC  
 ATGGATTCCGGG

**3' Read Nucleotide Sequence:** >OriGene 3' read for NM\_003701 unedited  
 CATGCAACTTCCAGGCCAGGAGAGGCACTGGGGAGGGGTCACAGGGATGCCACCCGGGAT  
 CTGTTCCAGGAAACAGCTATGACC CGGCCGCAATCTAGAGTCGAGTTTTTTTTTTTGT  
 TTTTTTTCAGGTTTTTATATAAATTTATTTTTGTACCAAAAAATTAACATTCAAAGGCAA  
 TGTTTTTATTGTACAGTATAAGATAACATTTACTAAATTAATTTGGACTTTTTTGTGTA  
 TAAACCACTAATAACTTTTCTATTTTGAAGAAAAAAGGTACAATTTGCGGCA  
 CTTGTGGAAAAACCTGTTCAACAATTATATACTACTTTGACAGATTTCAAGTGGCCC  
 ATTATGTATCCTTTTTGGCAATGTCAGCTTTCTAAAGTCAATTAGTTTCTAAATTTGAAA  
 GGCACCTGGTGGCCAACATCCTGCTTATTATTCAAGGCATCCATTTAATTTTTTGCAC  
 AGGCTTGACAAGTCTGAAAAATCTATTAACCTAAAAAGAACGAAGAAATATACTGCATT  
 TGATATTAGGAAACAACATTTTTTCCCCTCCTTAGCTGCAAGTTTTCCCAGGGAATTT  
 ACAAAGTGCACCAGTTAAATATGTCTTGTCTTTTAAAACATTAATATGTCAACGGCAAGA  
 CATTTTTAAATATTTGAATCAATACTATGGCACAATTTATTTTACATACTTTGCAAA  
 GAAACATTACATCTGAAATATACTTTAGATATTATATAAAATACCN

**Restriction Sites:** NotI-NotI

**ACCN:** NM\_003701

**Insert Size:** 2300 bp

**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](#)

**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\\_003701.2](#), [NP\\_003692.1](#)

**RefSeq Size:** 2226 bp

**RefSeq ORF:** 954 bp

**Locus ID:** 8600

**UniProt ID:** [O14788](#)

**Cytogenetics:** 13q14.11

**Protein Families:** Druggable Genome, Transmembrane

**Protein Pathways:** Cytokine-cytokine receptor interaction

**Gene Summary:** This gene encodes a member of the tumor necrosis factor (TNF) cytokine family which is a ligand for osteoprotegerin and functions as a key factor for osteoclast differentiation and activation. This protein was shown to be a dendritic cell survival factor and is involved in the regulation of T cell-dependent immune response. T cell activation was reported to induce expression of this gene and lead to an increase of osteoclastogenesis and bone loss. This protein was shown to activate antiapoptotic kinase AKT/PKB through a signaling complex involving SRC kinase and tumor necrosis factor receptor-associated factor (TRAF) 6, which indicated this protein may have a role in the regulation of cell apoptosis. Targeted disruption of the related gene in mice led to severe osteopetrosis and a lack of osteoclasts. The deficient mice exhibited defects in early differentiation of T and B lymphocytes, and failed to form lobulo-alveolar mammary structures during pregnancy. Two alternatively spliced transcript variants have been found. [provided by RefSeq, Jul 2008]

Transcript Variant: This variant (1) encodes the longer protein (isoform 1).