

## Product datasheet for **MR224429**

### Retsat (NM\_026159) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Retsat (NM_026159) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Retsat
Synonyms:	0610039N19Rik; C80029; MMT-7; Ppsig
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>MR224429 representing NM\_026159  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGTGGATCACTGCTCTGCTGCTGGCCGTGCTGCTGCTGGTGATCCTCCACAGGGTCTACGTGGCCTTT  
 ACGCTGCAAGTTCCCGAACCCCTTCGCCGAGGATGTCAAGCGACCGCCTGAACCCCTGGTGACCGACAA  
 GGAGGCTAGGAAGAAAGTTCTCAAACAAGCTTTCTCAGTCAGCCGAGTACCAGAGAAGCTGGATGCAGTG  
 GTGATCGGCAGCGCATTGGGGGACTGGCCTCAGCTGCGGTTCTAGCTAAAGCTGGCAAGAGAGTCTTTG  
 TGCTGGAACAACATACCAAGGCGGGCGGCTGTTGTACATCCTTTGGGAAAAATGGCCTTGAATTTGACAC  
 TGGAAATCATTATATTGGACGAATGCGGGAGGGCAACATTGGCCGTTTTATCTTGGACCAGATCACTGAA  
 GGGCAACTGGACTGGGCCCCATGGCCTCCCTTTTGACTTGATGATACTAGAAGGGCCCAATGGCCGAA  
 AGGAGTCCCCATGTACAGTGGGAGGAAAGAATACATCCAGGGCCTTAAGAAGAAGTTCCCAAGGAAGA  
 AGCTGTCAATTGACAAGTACATGGAGTTGGTTAAGGTGGTGGCCCGTGGAGTCTCTCATGCAGTTCTACTC  
 AAGTTCCTCCCATTTGCCCTTGACTCAGCTCCTCAGCAAGTTTGGGCTACTGACTCGTTTCTCTCCATTCT  
 GCCGAGCGTCTACGCAGAGCCTAGCTGAAGTCTGCAGCAGCTTGGGGCTTCCCGTGAGCTCCAGGCTGT  
 TCTCAGCTACATCTTCCCACTTACGGAGTAACTCCAGCCACACCGCCTTTTCTTGCATGCTCTGCTG  
 GTTGACCACTACATAAAGGGGCATATTACCCTCGAGGGGGTCCAGTGAGATCGCCTTCCATACCATCC  
 CTTTGATTACGCGGGCCGGGGCGCTGTCTCACCAGGGCCACTGTACAGAGTGTGCTGCTGGACTCAGC  
 TGGGAGAGCGTGGTGTGAGTGAAGAAGGGACAAGAGCTGGTGAACATCTACTGCCAGTTGTCACTC  
 TCCAATGCGGGAATGTTCAATACCTATCAGCACTTGTGCCAGAGACTGCCCCATCTGCCAGATGTGA  
 AGAAGCAGCTGGCGATGGTAAGGCCTGGTCTGAGCATGCTCAATCTTCACTGTCTGAAAGGCCACCAA  
 GGAGGACCTGAAGCTTACGTCCACCAACTACTATGTTTTATTTGACACAGACATGGACAAAGCGATGGAG  
 CGCTATGTCTCTATGCCAAGGAAAAGGCTCCAGAACACATTCCCTTCTTCTTATTGCCTTCCCATCAA  
 GCAAGGATCCAACCTGGGAGGAGCGATTCCAGACCGATCCACAATGACTGCGCTGGTACCCATGGCCTT  
 TGAATGGTTCGAGGAGTGGCAGGAGGAGCCAAAGGGCAAGCGTGGTGTGACTATGAGACCTCAAAAAT  
 GCCTTCGTGGAAGCCTCTATGTCGGTGATCATGAAACTGTTCCACAGCTGGAGGGCAAGGTGGAGAGTG  
 TGACTGGAGGTCACCACTGACCAACCAGTACTATCTGGCTGCACCCGAGGAGTACCTATGGAGCTGA  
 CCATGACTTGGCTCGGCTGCATCCTCATGCAATGGCTTCCATAAGAGCCCAACCCCATCCCAACCTC  
 TACCTGACAGGCCAAGATATCTTACCTGTGGGCTGATGGGGCCCTGCAGGGGGCCTTGTGTGCAGCA  
 GTGCCATCTGAAACGGAACCTGTACTCAGATCTGCAGGCTCTTGGCTCAAAGGTCAAGGCACAAAAGAA  
 GAAGATG

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>MR224429 representing NM\_026159  
 Red=Cloning site Green=Tags(s)

MWITALLLAVLLLVLHRVYVGLYAASSPNPFAEDVKRPPEPLVTDKEARKKVLKQAFSVSRVPEKLDAV  
 VIGSGIGGLASAAVLAKAGKRVLVLEQHTKAGGCCHTFGENGLEFDTGIHYIGRMREGNIGRFILDQITE  
 GQLDWAPMASPFDLMILEGPNRKEFPMSGRKEYIQGLKKKFPKEEAVIDKYMELVKVVARVSHAVLL  
 KFLPLPLTQLLSKFGLLTRFSPFCRASTQSLAEVLQQLGASRELQAVLSYIFPTYGVTPSHTAFSLHALL  
 VDHYIQGAYYPRGGSSEIAFHTIPLIQRAGGAVLTRATVQSVLLDSAGRACGVSVKKGQELVNIYCPVVI  
 SNAGMFNTYQHLLPETVRHLPDVKKQLAMVRPGLSMLSIFICLKGTKEDLKLQSTNYYVYFDTDMDKAME  
 RYVSMPEKAPHEIPLLFIAFPSSKDPTWEERFPDRSTMTALVPMAFEFEEWQEEPKGKRGVDYETLKN  
 AFVEASMSVIMKLFQLEGKVESVTGGSPLTNQYYLAAPRGATYGADHDLARLHPHAMASIRAQTPINPL  
 YLTGQDIFTCGLMGALQGALLCSSAILKRNLYSDLQALGSKVKAQKKKM

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mm9014\\_f02.zip](https://cdn.origene.com/chromatograms/mm9014_f02.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_026159

**ORF Size:** 1827 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\\_026159.5](#)

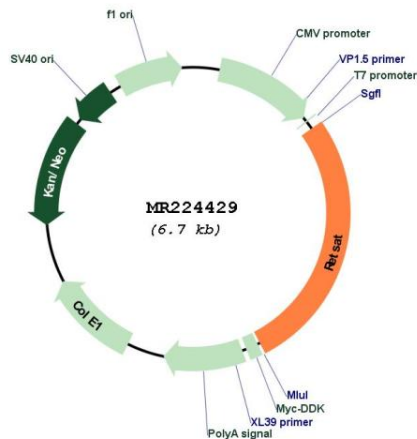
**RefSeq Size:** 1942 bp

**RefSeq ORF:** 1830 bp

**Locus ID:** 67442  
**UniProt ID:** [Q64FW2](#)  
**Cytogenetics:** 6 C1  
**MW:** 67.8 kDa

**Gene Summary:** Catalyzes the saturation of all-trans-retinol to all-trans-13,14-dihydroretinol (PubMed:15358783, PubMed:17253779, PubMed:19139408). Does not exhibit any activity toward all-trans-retinoic acid, nor 9-cis, 11-cis or 13-cis-retinol isomers (PubMed:15358783). May play a role in the metabolism of vitamin A (PubMed:15358783, PubMed:17253779). Independently of retinol conversion, may regulate liver metabolism upstream of MLXIPL/ChREBP (PubMed:28855500). Required for adipocyte differentiation in a 3T3-L1 cell culture model (PubMed:19139408). This effect seems not to mimic the in vivo situation in which animals show increased adiposity in the absence of RETSAT (PubMed:19940255). [UniProtKB/Swiss-Prot Function]

### Product images:



Circular map for MR224429