

## Product datasheet for **RG207515**

### TLR7 (NM\_016562) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	TLR7 (NM_016562) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	TLR7
Synonyms:	IMD74; TLR7-like
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG207515 representing NM_016562 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGTGTTTCCAATGTGGACACTGAAGAGACAAATTCCTATCCTTTTTAACATAATCCTAATTTCCAAAC  
TCCTTGGGGCTAGATGGTTTCCTAAAACCTGCCCCTGTGATGTCCTGATGTTCCAAAGAACCATGT  
GATCGTGGACTGCACAGACAAGCATTGACAGAAATTCCTGGAGGTATCCACGAAACACCAGAACCTC  
ACCCTCACCATTAAACCACATACCAGACATCTCCCAGCGTCCTTTCACAGACTGGACCATCTGGTAGAGA  
TCGATTTAGATGCAACTGTGTACCTATCCACTGGGGTCAAAAACAACATGTGCATCAAGAGGCTGCA  
GATTAACCAGAGCTTTAGTGGACTCACTTATTTAAAATCCCTTTACCTGGATGGAAACCAGCTACTA  
GAGATACCGCAGGGCCTCCCGCCTAGCTTACAGCTTCTCAGCCTTGAGGCCAACACATCTTTCCATCA  
GAAAAGAGAATCTAACAGAACTGGCCAACATAGAAATACTCTACCTGGGCCAAAACCTGTTATTATCGAAA  
TCCTTGTATGTTTCATATTCAATAGAGAAAGATGCCTTCCTAAACTTGACAAAGTTAAAAGTGCTCTCC  
CTGAAAGATAACAATGTCACAGCCGTCCTACTGTTTTGCCATCTACTTTAACAGAACTATATCTCTACA  
ACAACATGATTGCAAAAATCCAAGAAGATGATTTAATAACCTCAACCAATTACAAATCTTGACCTAAG  
TGGAAATTGCCCTCGTTGTTATAATGCCCATTTTCCTTGTGCGCGTGTAAAAATAATTTCCCTCAG  
ATCCCTGTAATGCTTTTGTATGCGCTGACAGAATTAAGTTTACGTCTACAGTAACCTCTCTCAGC  
ATGTGCCCAAGATGGTTAAGAACATCAACAACTCCAGAACTGGATCTGTCCCAAAACTTCTTGGC  
CAAGAATTTGGGATGCTAAATTTCTGCATTTTCTCCCGCCTCATCAATTGGATCTGTCTTTCAAT  
TTTGAACCTCAGGTCTATCGTGCATCTATGAATCTATCACAAGCATTTTCTTCACTGAAAAGCCTGAAAA  
TTCTGCGGATCAGAGGATATGCTTTAAAGAGTTGAAAAGCTTTAACCTCTCGCCATTACATAATCTTCA  
AAATCTTGAAGTTCTTGATCTTGGCACTAACTTTATAAAAATGCTAACCTCAGCATGTTTAAACAATTT  
AAAAGACTGAAAGTCATAGATCTTTCAGTGAATAAAAATATCACCTTCAGGAGATTCAAGTGAAGTTGGCT  
TCTGCTCAAAATGCCAGAACTTCTGTAGAAAGTTATGAACCCAGGTCCTGGAACAATTACATTATTTAG  
ATATGATAAGTATGCAAGGATTCAGATTCAAAAACAAGAGGCTTCTTTCATGTCTGTTAATGAAAGC



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TGCTACAAGTATGGGCAGACCTTGGATCTAAGTAAAAATAGTATATTTTTGTCAAGTCCTCTGATTTTC  
 AGCATCTTTCTTCTCAAAATGCCTGAATCTGTGACGAAATCTCATTAGCCAAACTCTTAATGGCAGTGA  
 ATTC AACCTTTAGCAGAGCTGAGATATTTGGACTTCTCCAACAACCGGCTTGATTTACTCCATTCAACA  
 GCATTTGAAGAGCTTACAAAACCTGGAAGTTCTGGATATAAGCAGTAATAGCCATTATTTTCAATCAGAAG  
 GAATTACTCATATGCTAACTTTACCAAGAACCTAAAGGTTCTGCAGAACTGATGATGAACGACAATGA  
 CATCTCTTCTCCACCAGCAGGACCATGGAGAGTGAGTCTTTAGAACTCTGGAATTCAGAGGAAATCAC  
 TTAGATGTTTTATGGAGAGAAGGTGATAACAGATACTTACAATTATCAAGAATCTGCTAAAATTAGAGG  
 AATTAGACATCTCTAAAAATCCCTAAGTTTCTTGCCTTCTGGAGTTTTGATGGTATGCCTCCAAATCT  
 AAAGAATCTCTTTGGCCAAAAATGGGCTCAAATCTTTCAGTTGGAAGAACTCCAGTGTCTAAAGAAC  
 CTGGAAACTTTGGACCTCAGCCACAACCAACTGACCACTGTCCCTGAGAGATTATCCAACCTGTTCCAGAA  
 GCCTCAAGAATCTGATTCTAAGAATAATCAAATCAGGAGTCTGACGAAGTATTTTCTACAAGATGCCTT  
 CCAGTTGCGATATCTGGATCTCAGCTCAAATAAAATCCAGATGATCCAAAAGACCAGCTTCCAGAAAAT  
 GTCCTCAACAATCTGAAGATGTTGCTTTTGCATCATAATCGGTTTCTGTGCACCTGTGATGCTGTGTGGT  
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 ATTCTGTTCTCACTTTCCATATCTGTATCTCTTTCTCATGGTATGATGACAGCAAGTACCTCTATT  
 TCTGGGATGTGTGGTATATTTACCATTTCTGTAAGGCCAAGATAAAGGGGTATCAGCGTCTAATATCACC  
 AGACTGTTGCTATGATGCTTTTATTGTGTATGACACTAAAGACCCAGCTGTGACCCAGTGGGTTTTGGCT  
 GAGCTGGTGGCCAAACTGGAAGACCCAAGAGAGAAACATTTTAAATTTATGTCTCGAGGAAAGGGACTGGT  
 TACCAGGGCAGCCAGTTCTGGAAAACCTTTCCAGAGCATACAGCTTAGCAAAAAGACAGTGTGTTGTGAT  
 GACAGACAAGTATGCAAAGACTGAAAATTTAAGATAGCATTTTACTTGTCCCATCAGAGGCTCATGGAT  
 GAAAAAGTTGATGATTATCTTGATATTTCTTGAGAAGCCCTTTCAGAAGTCCAAGTTCCTCCAGCTCC  
 GGAAAAGGCTCTGTGGGAGTTCTGTCTTGAGTGGCCAACAACCCGCAAGCTCACCCATACTTCTGGCA  
 GTGTCTAAAGAACGCCCTGGCCACAGACAATCATGTGGCTATAGTCAGGTGTTCAAGGAAACGGTC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:**

>RG207515 representing NM\_016562  
 Red=Cloning site Green=Tags(s)

MVFPMTLKRQILILFNIILISKLLGARWFPKTLPCDVTLDVDPKNHVIDCTDKHLTEIPGGIPTNTTNL  
 TLTIINHIPDISPASFRHLVDLVEIDFRNCVPIPLGSKNNMCIKRLQIKPRFSGLTYLKSLYLDGNQLL  
 EIPQGLPPLSLQLSLEANNIFSIRKENLTELANIEILYLQNCYRNPYVSYSEKDAFLNLTKLKVLS  
 LKDNNTAVPTVLPSTLTELKYLNNMIAKIQEDDFNNLNQLQILDLSGNCPRCYNAPFCAPCKNNSPLQ  
 IPVNAFDALTELKVLRLHSNSLQHVPPRWFKNINKLQELDLQNF LAKEIGDAKFLHFLPSLIQLDL SFN  
 FELQVYRASMNLQAFSSLKSLKILRIRGYVFKELKSFNL SPLHNLQNLEVLDLGTFNFIKIANLSMFKQF  
 KRLKVIDLSVNKISPSGDSSEVGFCSNARTSVESYEPQVLEQLHYFRYDKYARSCRFKNKEASFMSVNES  
 CYKYGQTLDL SKNSIFFVKSSDFQHL SFLKCLNLSGNLISQTLNGSEFQPLAELRYLDFSNRDL LLLHST  
 AFEELHKLEVLDISSNSHYFQSEGITHTMLNFTKNLKVQLKLMNDNDISSSTRTMESESLRTLEFRGNH  
 LDVLWREGDNRYLQLFKNLLKLEELDISKNSLSFLPSGVFDGMPNPKNLSLAKNGLKFSWKKLQCLKN  
 LETLDL SHNQLTTVPERLSNCSRSLKNLILKNNQIRSLTKYFLQDAFQLRYLDLSSNKIQMIQKTSFPEN  
 VLNNLKM LLLHHNRFLCTCDAVWFVWVNHTEVTIPYLATDVTCVGPGAHKGQSVISLDLYTCELDL TNL  
 ILFSLSISVSLFLMVMMTASHLYFWDVWYIYHFCKAKIKGYQRLISPDCCYDAFIVYDTKDPAVTEWVLA  
 ELVAKLEDPREKHFNLCEERDWPQPVLENLSQSIQLSKKTVFVMTDKYAKTENFKIAFYLSHQRLMD  
 EKVDVILIFLEKPFQKSKFLQLRKRLCGSSVLEWPTNPQAHYFVWQCLKNALATDNHVAYSQVFKETV

TRTRPLE - GFP Tag - V

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_016562

**ORF Size:** 3147 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\\_016562.3](#), [NP\\_057646.1](#)

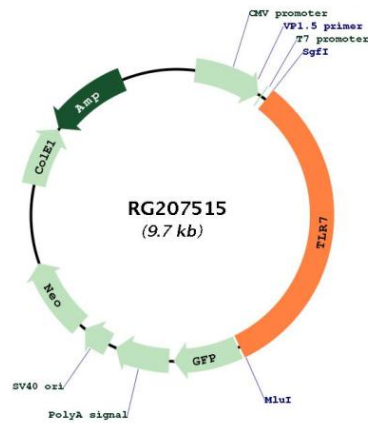
**RefSeq Size:** 4992 bp

**RefSeq ORF:** 3150 bp

**Locus ID:** 51284  
**UniProt ID:** [Q9NYK1](#)  
**Cytogenetics:** Xp22.2  
**Domains:** TIR, LRRCT, LRR, LRR\_TYP, LRR\_SD22, LRR\_BAC  
**Protein Families:** Druggable Genome, Transmembrane  
**Protein Pathways:** Toll-like receptor signaling pathway  
**Gene Summary:**

The protein encoded by this gene is a member of the Toll-like receptor (TLR) family which plays a fundamental role in pathogen recognition and activation of innate immunity. TLRs are highly conserved from Drosophila to humans and share structural and functional similarities. The human TLR family comprises 11 members. They recognize pathogen-associated molecular patterns (PAMPs) that are expressed on infectious agents, and mediate the production of cytokines necessary for the development of effective immunity. For the recognition of structural components in foreign microorganisms, the various TLRs exhibit different patterns of expression as well; in this way for example, TLR-3, -7, and -8 are essential in the recognition of single-stranded RNA viruses. TLR7 senses single-stranded RNA oligonucleotides containing guanosine- and uridine-rich sequences from RNA viruses, a recognition occurring in the endosomes of plasmacytoid dendritic cells and B cells. This gene is predominantly expressed in lung, placenta, and spleen, and is phylogenetically related and lies in close proximity to another family member, TLR8, on chromosome X. [provided by RefSeq, Aug 2020]

### Product images:



Circular map for RG207515