

## Product datasheet for **MG226361**

### **II27 (NM\_145636) Mouse Tagged ORF Clone**

#### Product data:

Product Type:	Expression Plasmids
Product Name:	II27 (NM_145636) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	II27
Synonyms:	IL-27; IL-27p28; II30; p28
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>MG226361 representing NM_145636 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGGCCAGGTGACAGGAGACCTTGCTGGCGGCTCAGCCTGTTGCTGCTACCCTTGCTTCTGGTACAAG  
CTGGTTCCTGGGGTTCCCAACAGACCCCTGAGCCTTCAAGAGCTGCGCAGGGAATTCACAGTCAGCCT  
GTACCTTGCCAGGAAGCTGCTCTGAGGTTCAAGGCTATGTCCACAGCTTTGCTGAATCTCGATTGCCA  
GGAGTGAACCTGGACCTCTGCCCTGGGATACCATCTTCCCAATGTTCCCTGACTTCCAGGCATGGC  
ATCACCTCTGACTCTGAGAGACTCTGTTCCCTCGCTACCACACTTCGGCCCTTCCTGCCATGCTGGG  
AGGGCTGGGACCCAGGGGACCTGGACCAGCTCAGAGAGGGAGCAGCTGTGGGCCATGAGGCTGGATCTC  
CGGGACCTGCACAGGCACCTCCGCTTTCAGGTGCTGGCTGCAGGATTCAAATGTTCAAAGGAGGAGGAGG  
ACAAGGAGGAAGAGGAAGAGGAGGAAGAAGAAGAAAAGAAGCTGCCCTAGGGGCTCTGGGTGGCCCAA  
TCAGGTGTATCCCAAGTGTCTGGCCCAAGCTGCTCTATACCTACCAGCTCCTTCACTCCCTGGAGCTT  
GTCCTGTCTCGGGCTGTTTCGGGACCTGCTGCTGCTGCTGCTGCTGCTGCCAGGCGCCAGGCTCAGCCTGGGATT  
CC

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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**Protein Sequence:** >MG226361 representing NM\_145636  
Red=Cloning site Green=Tags(s)

MGQVTGDLGWRLSLLLLPLLLVQAGSWGFPDPLSLQELRREFTVSLYLARKLLSEVQGYVHSFAESRLP  
 GVNLDLLPLGYHLPNVSLTFQAWHHLSDSERLCFLATTLRPFPA MLGGLGTQGTWTSEREQLWAMRLDL  
 RDLHRHLRFQVLAAGFKCSKEEEDKEEEEEEEEEKKLPLGALGGPNQVSSQVSWPQLLYTYQLLHSLLEL  
 VLSRAVRDLLLLSLPRRPGSAWDS

TRTRPLE - GFP Tag - V

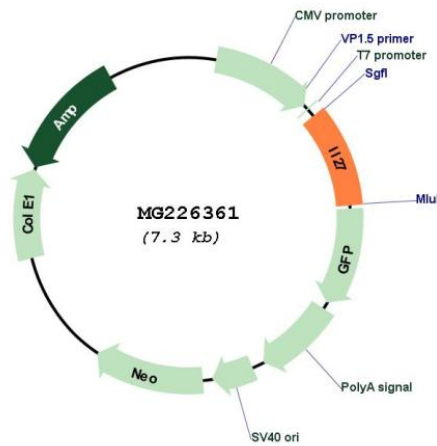
**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shutting:



**Plasmid Map:**



**ACCN:** NM\_145636

**ORF Size:** 702 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](#)

**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\\_145636.2](#)

**RefSeq Size:** 705 bp

**RefSeq ORF:** 705 bp

**Locus ID:** 246779

**UniProt ID:** [Q8K3I6](#)

**Cytogenetics:** 7 F3

**Gene Summary:**

Associates with EBI3 to form the IL-27 interleukin, a heterodimeric cytokine which functions in innate immunity. IL-27 has pro- and anti-inflammatory properties, that can regulate T-helper cell development, suppress T-cell proliferation, stimulate cytotoxic T-cell activity, induce isotype switching in B-cells, and that has diverse effects on innate immune cells. Among its target cells are CD4 T-helper cells which can differentiate in type 1 effector cells (TH1), type 2 effector cells (TH2) and IL17 producing helper T-cells (TH17). It drives rapid clonal expansion of naive but not memory CD4 T-cells. It also strongly synergizes with IL-12 to trigger interferon-gamma/IFN-gamma production of naive CD4 T-cells, binds to the cytokine receptor WSX-1/TCCR which appears to be required but not sufficient for IL-27-mediated signal transduction. IL-27 potentiates the early phase of TH1 response and suppresses TH2 and TH17 differentiation. It induces the differentiation of TH1 cells via two distinct pathways, p38 MAPK/TBX21- and ICAM1/ITGAL/ERK-dependent pathways. It also induces STAT1, STAT3, STAT4 and STAT5 phosphorylation and activates TBX21/T-Bet via STAT1 with resulting IL12RB2 up-regulation, an event crucial to TH1 cell commitment. It suppresses the expression of GATA3, the inhibitor of TH1 cell development. In CD8 T-cells, it activates STATs as well as GZMB. IL-27 reveals to be a potent inhibitor of TH17 cell development and of IL-17 production. Indeed IL27 alone is also able to inhibit the production of IL17 by CD4 and CD8 T-cells. While IL-27 suppressed the development of proinflammatory Th17 cells via STAT1, it inhibits the development of anti-inflammatory inducible regulatory T-cells, iTreg, independently of STAT1. IL-27 has also an effect on cytokine production, it suppresses proinflammatory cytokine production such as IL2, IL4, IL5 and IL6 and activates suppressors of cytokine signaling such as SOCS1 and SOCS3. Apart from suppression of cytokine production, IL-27 also antagonizes the effects of some cytokines such as IL6 through direct effects on T-cells. Another important role of IL-27 is its antitumor activity as well as its antiangiogenic activity with activation of production of antiangiogenic chemokines such as IP-10/CXCL10 and MIG/CXCL9. [UniProtKB/Swiss-Prot Function]