

## Product datasheet for **MG211635**

### Jak3 (NM\_010589) Mouse Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Jak3 (NM\_010589) Mouse Tagged ORF Clone  
**Tag:** TurboGFP  
**Symbol:** Jak3  
**Synonyms:** fae; wil  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-AC-GFP (PS100010)  
**E. coli Selection:** Ampicillin (100 ug/mL)  
**ORF Nucleotide Sequence:** >MG211635 representing NM\_010589  
Red=Cloning site Blue=ORF Green=Tags(s)

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GCC**CGATCGCC**

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CCCCGCCTGCCCTGGCTGCTCCCCGTCCTGCTGTGCGCTGACACAGCTGAGCTTCCACACAATCCAA
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AAGACCCGGA
    
```

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:**

>MG211635 representing NM\_010589  
 Red=Cloning site Green=Tags(s)

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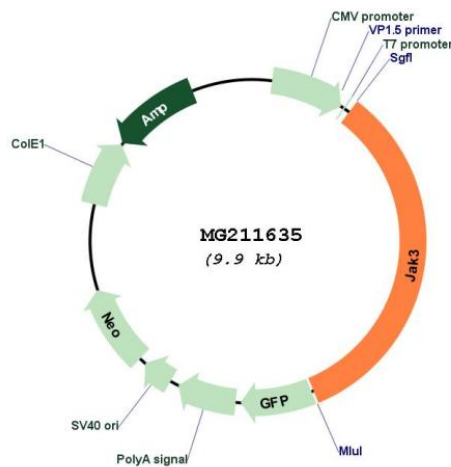
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AEGRRLLPPPPTCPEVQELMQLCWAPSPHDPAFGTLSPQLDALWRGRPG
    
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TRTRPLE - GFP Tag - V

**Restriction Sites:**

Sgfl-Mlul

**Cloning Scheme:**

**Plasmid Map:**


**ACCN:** NM\_010589

**ORF Size:** 3300 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.

<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<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>
<b>RefSeq:</b>	<u>NM_010589.3, NP_034719.2</u>
<b>RefSeq Size:</b>	3950 bp
<b>RefSeq ORF:</b>	3303 bp
<b>Locus ID:</b>	16453
<b>UniProt ID:</b>	<u>Q62137</u>
<b>Cytogenetics:</b>	8 34.43 cM
<b>Gene Summary:</b>	<p>Non-receptor tyrosine kinase involved in various processes such as cell growth, development, or differentiation. Mediates essential signaling events in both innate and adaptive immunity and plays a crucial role in hematopoiesis during T-cells development. In the cytoplasm, plays a pivotal role in signal transduction via its association with type I receptors sharing the common subunit gamma such as IL2R, IL4R, IL7R, IL9R, IL15R and IL21R. Following ligand binding to cell surface receptors, phosphorylates specific tyrosine residues on the cytoplasmic tails of the receptor, creating docking sites for STATs proteins. Subsequently, phosphorylates the STATs proteins once they are recruited to the receptor. Phosphorylated STATs then form homodimer or heterodimers and translocate to the nucleus to activate gene transcription. For example, upon IL2R activation by IL2, JAK1 and JAK3 molecules bind to IL2R beta (IL2RB) and gamma chain (IL2RG) subunits inducing the tyrosine phosphorylation of both receptor subunits on their cytoplasmic domain. Then, STAT5A AND STAT5B are recruited, phosphorylated and activated by JAK1 and JAK3. Once activated, dimerized STAT5 translocates to the nucleus and promotes the transcription of specific target genes in a cytokine-specific fashion.[UniProtKB/Swiss-Prot Function]</p>