

## Product datasheet for **MC223543**

### Jak3 (NM\_001190830) Mouse Untagged Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Jak3 (NM\_001190830) Mouse Untagged Clone  
**Tag:** Tag Free  
**Symbol:** Jak3  
**Synonyms:** fae; wil  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**Cell Selection:** Neomycin  
**Fully Sequenced ORF:** >MC223543 representing NM\_001190830  
Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**GCGATCGCC**

ATGGCACCTCCAAGTGAGGAGACACCTCTGATCCCTCAGCGCTCTTGACGCTCTCATCCTCAGAGGCAG  
GAGCCCTGCATGTGCTCCTTCTCCCGGGACCTGGGCCTCCCAAGCATTGTCATTCTCTTTGGGGA  
CTACTTGGCTGAGGATTTATGTGTGCGAGCTGCCAAGGCCTGTGGCATCCTGCCTGTTTATCATTGCTT  
TTCGCTCTGGCCACTGAGGACTTCTCTTGTGGTTTCCCAAGCCACATCTTCTGCATAGAGGAGGTGG  
ACACTCAAGTCTTGGTCTACAGGCTACGCTTTTATTTCCCTGACTGGTTTGGGCTGGAGACATGTCACCG  
CTTTGGGCTGCGCAAAGATTTGACCAGTGCCATCCTTGACTTACACGTTTTAGAACATCTCTTTGCTCAG  
CACCGCAGTGACCTGGTGTGAGTGGGCGCCTCCCGTGGGCCTTAGCATGAAGGAGCAGGGAGAGTTCTGA  
GCCTGGCCGTGCTGGACTTGGCCAGATGGCTCGTGAGCAGGCCAGCGCCAGGAGAGCTGCTGAAGAC  
GGTCAGTTACAAAGCCTGTCTGCCGCCAGCCTGCGCGATGTGATCCAGGGCCAGAACTTCGTGACACGC  
AGGCGCATCCGCAGGACCGTGGTCTTGGCGCTGCGCCGTGTGGTGCCTGCCAGGCCGACCGCTACGCGC  
TCATGGCCAAGTATATTTGGACCTGGAGCGGCTACATCCAGCGGCCACCACCGAGACTTCCGTGTGGG  
GCTCCCGGGCGCCAGGAGGAGCCGGGCTTCTGCGTGTGGCGGGGACAAACGGCATCTCCTGGAGCTCC  
GGGACCAGGAGCTTTTCCAGACCTTCTGTGACTTTCCGAAATCGTGGATGTCAGCATCAAGCAGGCC  
CACGTGTGGTCCGGCAGGGGAACACCGGCTGGTACCCTCACCAGGATGGACGGCCACATCCTGGAAGC  
GGAGTTTCCGGGCTGCCTGAGGCGCTGTCTTCTGTCGCTTGTGGATGGTACTTCCGCTGATCTGC  
GACTCCAGGCATTATTTCTGCAAGGAGGTGGCGCCGCGGCTGCTGGAGGAGGAGGGAGCTGTGCC  
ATGGACCCATCACGTTAGACTTTGCCATCCACAAGCTGAAGGCCGCTGGTCCCTCCAGGCACCTACAT  
TCTCCGCCGAGCCGACGACTATGACAGCTTCTTCTTACCCTGCGTCCAGACTCCTTTGGCCCC  
GACTACAAGGGCTGCCTCATCCGCCAGGACCCAGCGGGCTTTCTCCCTGGTTGCCTCAGCCAGCCCC  
ACAGAAGCCTGCGGGAGCTGCTTGACGCTGCTGGAATTCGCGGTGCGAGTAGACGGTGCCTGCCCTGAA  
CCTAACATCCTGCTGCGCTCCAGACCCAAAGAAAAGTCCAATTTGATCGTGGTGCAGGGGCTGCACC  
CCCGCGCTGCCCTGGCTGCTCCCGTCTGCTGCGCTGACACAGCTGAGCTTCCACACAATTTCAA



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CCGACAGCCTGGAGTGGACGAGAACCTGGGTCACGGTCTTTTACCAAGATCTCCGTGGCCGACGGCG  
 GGAGGTCGTGGATGGTGAGACACATGACTCGGAAGTCCTCTGAAGGTCATGGACTCCAGACATCGGAAC  
 TGCATGGAGTCTTTTCTGGAAGCCGCAAGCTTGATGAGCCAAGTATCCTACCCGCACCTGGTGTACTGC  
 ACGGCGTCTGCATGGCTGGAGACAGCATCATGGTGCAGGAATTTGTGTATCTAGGAGCAATTGACATGTA  
 CCTGCGCAAGCGTGGCCACCTGGTGTGACCCAGCTGAAACTGCAGGTGACCAAGCAGCTGGCATATGCC  
 CTTAACTACTTGGAGGACAAAGGCCCTTCTCACGGCAACGCTCAGCACGGAAGGTGCTCCTGGCTCGTG  
 AGGGGGTGTGATGGGAATCCACCTTTCATTAAGCTGAGTGATGATCCTGGTGTGACGTCCTGAGCCT  
 GGAAATGCTCACCGACAGAATACCTGGGTGGCCCCGAATGTCTCCAGGAGGCTCAGACACTCGGCTTG  
 GAGGCTGACAAGTGGGGCTTGGAGCCACCACGTGGGAGGTGTTAGCGGGGACCCGCCACATCACCT  
 CGCTGGAGCCCGCAAAAAGCTGAAGTTCTATGAGGACCAGGGACAGCTGCCCGCTCTCAAATGGACAGA  
 ACTGGCGGGACTTATCACACAGTGCATGGCCTATGATCCTGGCCGGCGCCCTCCTTCCGAGCTATCCTC  
 AGAGACCTCAACGGCCTCATTACATCAGATTACGAGCTCCTCTCAGACCCACACCTGGCATCCCGAGTC  
 CTCGAGATGAGCTGTGCGGTGGCGCCAGCTCTATGCCTGCCAGGACCCGCCATATTCGAGGAGAGACA  
 CCTTAAGTACATCTTTGCTGGCAAGGGCAACTTTGGCAGCGTGGAGCTGTGCCGCTATGACCCCTG  
 GGGACAATACGGGACCCCTGGTGGCAGTGAAACAGCTACAGCACAGCGGCCAGACCAGCAGAGGGACT  
 TCAGCGGGAGATTAGATCCTTAAGGCTCTGCACAGCGACTTCATCGTCAAGTACCGGGGAGTCAGCTA  
 TGGGCCAGGTGCGCCAGAGCCTGCGGTTGGTGTGAGTACCTGCCAGCGGCTGCCTGCGAGACTTCTG  
 CAGCGCCATCGCGCGCGCCTGCACACCGACCGCCTACTGCTGTTGCGTTGGCAGATCTGCAAGGGCATGG  
 AGTACCTGGGTGCGCGCGCCTGCGTACACCGTGACCTGGCTGCGCGCAACATCTTGGTGGAGAGCGAGGC  
 TCATGTGAAGATCGCGGACTTCGGCCTCGTAAGCTGTGCCCTGGGAAAGGACTACTACGTGGTCCGC  
 GAGCCTGGCCAAAGCCCATCTTTGGTATGCCCGGAGTCCCTATCTGACAACATCTTCTCCGCCAAT  
 CTGACGTGTGGAGCTTCGAGTGGTGTGTACGAGCTTTCACCTACTGCGACAAGAGCTGCAGCCCATC  
 CGCTGAGTCTGAGCATGATGGGGCTGAGCGTGAAGGACCCCGCTCTGCCGCTCTGGAGCTGTGCTG  
 GCAGAGGGCCGACGCTCCACACCTCCACCTGCCACCGAGGTTACGAGGCTCATGACGCTGTGCT  
 GGGCGCCAGCCGACGACCGCCAGCCTTCGGCACCTGAGCCCCAGCTGGACGCGCTGTGGCGTGG  
 AAGACCCGGATAG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

- Restriction Sites:** Sgfl-MluI
- ACCN:** NM\_001190830
- Insert Size:** 3303 bp
- OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
- 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\\_001190830.1](#), [NP\\_001177759.1](#)

RefSeq Size: 3679 bp

RefSeq ORF: 3303 bp

Locus ID: 16453

UniProt ID: [Q62137](#)

Cytogenetics: 8 34.43 cM

**Gene Summary:** 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]

Transcript Variant: This variant (2) differs in the 3' UTR compared to variant 1. Both variants 1 and 2 encode the same protein. Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.