

## Product datasheet for SC118761

### JAK1 (NM\_002227) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	JAK1 (NM_002227) Human Untagged Clone
Tag:	Tag Free
Symbol:	JAK1
Synonyms:	AIIDE; JAK1A; JAK1B; JTK3
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL4</u>
E. coli Selection:	Ampicillin (100 ug/mL)

Fully Sequenced ORF: >OriGene ORF sequence for NM\_002227 edited  
 ATGCAGTATCTAAATATAAAAGAGGACTGCAATGCCATGGCTTTCTGTGCTAAAAATGAGG  
 AGCTCCAAGAAGACTGAGGTGAACCTGGAGGCCCTGAGCCAGGGGTGGAAGTGATCTTC  
 TATCTGTTCGGACAGGGAGCCCTCCGGCTGGGCAGTGGAGAGTACACAGCAGAGGAACTG  
 TGCATCAGGGCTGCACAGGCATGCCGTATCTCTCTCTTTGTCAACCTCTTTGCCCTG  
 TATGACGAGAACCAAGCTCTGGTATGCTCCAAATCGCACCATCACCGTTGATGACAAG  
 ATGTCCCTCCGGCTCCACTACCGGATGAGGTTCTATTTACCAATTGGCATGGAACCAAC  
 GACAATGAGCAGTCAGTGTGGCGTCATTCTCAAAGAAGCAGAAAAATGGCTACGAGAAA  
 AAAAAGATTCCAGATGCAACCCCTCCTTGATGCCAGCTCACTGGAGTATCTGTTTGTCT  
 CAGGGACAGTATGATTTGGTGAATGCCTGGCTCCTATTCGAGACCCCAAGACCGAGCAG  
 GATGGACATGATATTGAGAACGAGTGTCTAGGGATGGCTGTCCTGGCCATCTCACACTAT  
 GCCATGATGAAGAAGATGCAATTGCCAGAAGTCCCAAGGACATCAGCTACAAGCGATAT  
 ATTCCAGAAACATTGAATAAGTCCATCAGACAGAGGAACCTTCTCACCAGGATGCCGATA  
 AATAATGTTTTCAAGGATTTCTAAAGGAATTTAACAACAAGACCATTTGTGACAGCAGC  
 GTGTCCACGCATGACCTGAAGGTGAAATACTTGGCTACCTTGAAACTTTGACAAAAACAT  
 TACGGTGTGAAATATTTGAGACTTCCATGTTACTGATTTTCATCAGAAAAATGAGATGAAT  
 TGGTTTCATTGCAATGACGGTGGAAACGTTCTCTACTACGAAGTGATGGTACTGGGAAT  
 CTTGGAATCCAGTGGAGGCATAAACCAATGTTGTTTCTGTTGAAAAGGAAAAAATAAA  
 CTGAAGCGGAAAAAACTGAAAAATAAACACAAGAAGGATGAGGAGAAAAACAAGATCCGG  
 GAAGAGTGGAAACAATTTTCTTACTTCCCTGAAATCACTCACATTGTAATAAAGGAGTCT  
 GTGGTCAAGCATTAAACAAGCAGGACAACAAGAAAAATGGAAGTGAAGCTCTTTCCACGAG  
 GAGGCCTTGTCTTTGTGTCCCTGGTAGATGGCTACTTCCGGCTCACAGCAGATGCCAT  
 CATTACCTCTGCACCGACGTGGCCCCCGTTGATCGTCCACAACATACAGAATGGCTGT  
 CATGGTCCAATCTGTACAGAATACGCCATCAATAAATTGCGGCAAGAAGGAAGCGAGGAG  
 GGGATGTACGTGCTGAGGTGGAGCTGCACCGACTTTGACAACATCCTCATGACCGTCACC  
 TGCTTTGAGAAGTCTGAGCAGGTGCAGGGTGCCAGAAGCAGTTCAAGAAGTTCAGATC  
 GAGGTGCAGAAGGGCCGCTACAGTCTGCACGGTTCGGACCGCAGCTTCCCAGCTTGGGA



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GACCTCATGAGCCACCTCAAGAAGCAGATCCTGCGCACGGATAACATCAGCTTCATGCTA  
 AAACGCTGCTGCCAGCCCAAGCCCCGAGAAATCTCCAACCTGCTGGTGGCTACTAAGAAA  
 GCCCAGGAGTGGCAGCCCGTCTACCCCATGAGCCAGCTGAGTTTCGATCGGATCCTCAAG  
 AAGGATCTGGTGCAGGGCGAGCACCTTGGGAGAGGCACGAGAACACACATCTATTCTGGG  
 ACCCTGATGGATTACAAGGATGACGAAGGAACCTCTGAAGAGAAGAAGATAAAAGTGATC  
 CTCAAAGTCTTAGACCCAGCCACAGGGATATTTCCCTGGCCTTCTTCGAGGCAGCCAGC  
 ATGATGAGACAGGTCTCCCAAAACACATCGTGTACCTCTATGGCGTCTGTGTCCGCGAC  
 GTGGAGAATATCATGGTGAAGAGTTTGTGAAGGGGGTCTCTGGATCTCTTCATGCAC  
 CGGAAAAGCGATGTCCTTACCACACCATGAAATTCAAAGTTGCCAAACAGCTGGCCAGT  
 GCCCTGAGCTACTTGGAGGATAAAGACCTGGTCCATGAAATGTGTACTAAAAACCTC  
 CTCCTGGCCCGTGAAGGCATCGACAGTGTGGCCATTTCATCAAGCTCAGTGACCCC  
 GGCATCCCCATTACGGTGTCTAGGCAAGAATGCATTGAACGAATCCCATGGATTGCT  
 CCTGAGTGTGTTGAGGACTCCAAGAACCTGAGTGTGGCTGCTGACAAGTGGAGCTTGG  
 ACCACGCTCTGGGAAATCTGCTACAATGGCGAGATCCCCTTGAAGACAAGACGCTGATT  
 GAGAAAGAGAGATTCTATGAAAGCCGGTGCAGGCCAGTGACACCATCATGTAAGGAGCTG  
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 ACAGGGGAGCAGGTGGCTGTTAAATCTCTGAAGCCTGAGAGTGGAGGTAACCACATAGCT  
 GATCTGAAAAAGGAAATCGAGATCTTAAGGAACCTCTATCATGAGAACATTGTGAAGTAC  
 AAAGGAATCTGCACAGAAGACGGAGGAAATGGTATTAAGCTCATCATGGAATTTCTGCCT  
 TCGGGAAGCCTTAAGGAATATCTTCCAAAGAATAAGAACAAAATAAACCTCAAACAGCAG  
 CTAAAAATAGCCGTTTCAAGATTTGTAAGGGGATGGACTATTTGGGTTCTCGGCAATACGTT  
 CACCGGGACTTGGCAGCAAGAAATGTCCTTGTGAGAGTGAACACCAAGTAAAAATTGGA  
 GACTTCGGTTTAAACCAAAGCAATTGAAACCGATAAGGAGTATTACACCGTCAAGGATGAC  
 CGGGACAGCCCTGTGTTTTGGTATGCTCCAGAATGTTAATGCAATCTAAATTTTATATT  
 GCCTCTGACGCTGGTCTTTGGAGTCACTCTGCATGAGCTGCTGACTTACTGTGATTCA  
 GATTCTAGTCCCATGGCTTTGTTCTGAAAATGATAGGCCCAACCCATGGCCAGATGACA  
 GTCACAAGACTTGTGAATACGTTAAAAGAAGGAAAACGCCTGCCGTGCCACCTAACTGT  
 CCAGATGAGGTTTATCAACTTATGAGGAAATGCTGGGAATTCCAACCATCCAATCGGACA  
 AGCTTTCAGAACCTTATTGAAGGATTTGAAGCACTTTTAAAAATAA

**5' Read Nucleotide  
 Sequence:**

>OriGene 5' read for NM\_002227 unedited  
 NAAGGGTTCAGAATTGTATACGACTCACTATAGGCGGCCGGAATTCGCACGAGGCCTGG  
 CCCAGGCGCACACGNAGTGCCTTCTCTGAAGTAGCTTTGGAAAGTAGAGAAGAAAATC  
 CAGTTTGCTTCTGGAGAACACTGGACAGCTGAATAAATGCAGTATCTAAATATAAAGA  
 GGACTGCAATGCCATGGCTTTCTGTGCTAAAATGAGGAGCTCCAAGAAGACTGAGGTGAA  
 CCTGGAGGCCCTGAGCCAGGGTGAAGTGATTTCTATCTGTGCGACAGGGAGCCCT  
 CCGGCTGGCAGTGGAGAGTACACAGCAGAGGAACTGTGCATCAGGGCTGCACAGGCATG  
 CCGTATCTCTCCTCTTTGTCAACCTCTTTGCCCTGTATGACGAGAACCAAGCTCTG  
 GTATGCTCCAAATCGCACCATCACCGTTGATGACAAGATGTCCCTCCGGCTCCACTACCG  
 GATGAGTTCTATTTACCAATTGGCATGGAACCAACGACAATGAGCAGTCAGTGTGGCG  
 TCATTCTCAAAGAAGCAGAAAAATGGCTACGAGAAAAAAGATTCCAGATGCAACCCC  
 TCTCCTTGATGCCAGCTCACTGGAGTATCTGTTTGCTCAGGGACAGTATGATTTGGTGAA  
 ATGCCTGGCTCCTATTCGAGACCCCAAGACCCGAGCAGGATGGACATGATATTGAGAACGA  
 GTGTCTAGGGATGGCTGTCTGGCCATCTCACACTATGCCATGATGAAAAAGATGCAGTT  
 GCCAGAATGCCAAGGACATCAGCTACAAGCGATATATTCCAGAACATTGAATAAGTCC  
 ATCAGACAGAGGAACCTTCTCACCNAGATGCGGATAAATAATGGTTTTCAAGGATTTTCC  
 TAAGGAATTTAACACC

<b>3' Read Nucleotide Sequence:</b>	<p>&gt;OriGene 3' read for NM_002227 unedited            NNTTTTTTTTGGGTATTATCTATGNNACCGCGCCGCATNCTANNGATCGATTTTTTTTT            TTTTTTTTTTTTTTTTTTAAAACTTTAGTATATTTATTTGTATAAAGAGTAAACAAAG            TGCATATAGAGTGGCCACAGGTTTGACACAGAGACCTTGGTGTAGGCTATGAACAAA            TTTAAATGGCACTTCATTGCTGCCACTGAACCAATCCTGAATTTGGGCTCAACAGGTGA            AAAGTAAACAATATCAAACGAATACTAAACAGCATAACAAAAAGATTTTCAGACTCTTGGT            CATAAAGACCGTAATCGTTCACATTGAATCAATGACTAAACATTTTTGATTACCCAGCTA            CCTCCAAGCAAACCTGAAAACGTCTAGTGGATCCTGAAGTCCATAGTGCCTCTAGCCGGG            TCTTTCAGTGTTGCACCACAGGGTGATGATTGATGGTAAAAACAAGGATCAACCCTTGT            AGATCGGTGGTTAAGTATGAAACCCTCTAAGAACGTGCAGCGTATGTGGTATTCAAACCTG            GGTGCATACAGCATTCAAACACAGTGTGGAATAAATTGGCCAAAAATGGGTGAAGTTAT            AAAAAGATATACCTTGCCCTTTCTTAAAAGCATGTGGTATAACCTTCAAGTTCTGGGAA            GGAATTCTTGATTAAGGATTACTGCTTAAGAAAAACACTGGGCCAAAGCTTTAGTTTT            TTGGGAATTTAAATGCCCAAAATATCTATTTCCAAACTTTTCCCCCTGGGTAAAAC            AAGCTTTTCTTAAAAAAGGGTGGCTAGTGGATCCCCCAAGGNACAGGAGCTAAACCACTG            ANAGAACAAAGTTAAGTCTACTGGTGAGAGATACAGTCATTTTTGTACAGA</p>
<b>Restriction Sites:</b>	NotI-NotI
<b>ACCN:</b>	NM_002227
<b>Insert Size:</b>	5100 bp
<b>OTI Disclaimer:</b>	<p>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 <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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. <a href="#">More info</a></p>
<b>OTI Annotation:</b>	This TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.
<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>

RefSeq:	<a href="#">NM_002227.1</a> , <a href="#">NP_002218.1</a>
RefSeq Size:	3541 bp
RefSeq ORF:	3429 bp
Locus ID:	3716
UniProt ID:	<a href="#">P23458</a>
Cytogenetics:	1p31.3
Domains:	pkinase, SH2
Protein Families:	Druggable Genome, Protein Kinase
Protein Pathways:	Jak-STAT signaling pathway, Pancreatic cancer, Pathways in cancer
Gene Summary:	<p>This gene encodes a membrane protein that is a member of a class of protein-tyrosine kinases (PTK) characterized by the presence of a second phosphotransferase-related domain immediately N-terminal to the PTK domain. The encoded kinase phosphorylates STAT proteins (signal transducers and activators of transcription) and plays a key role in interferon-alpha/beta, interferon-gamma, and cytokine signal transduction. This gene plays a crucial role in effecting the expression of genes that mediate inflammation, epithelial remodeling, and metastatic cancer progression. This gene is a key component of the interleukin-6 (IL-6)/JAK1/STAT3 immune and inflammation response and is a therapeutic target for alleviating cytokine storms. The kinase activity of this gene is directly inhibited by the suppressor of cytokine signalling 1 (SOCS1) protein. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Jul 2020]</p>