

## Product datasheet for SC323641

### FAK (PTK2) (NM\_153831) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	FAK (PTK2) (NM_153831) Human Untagged Clone
Tag:	Tag Free
Symbol:	FAK
Synonyms:	FADK; FADK 1; FAK; FAK1; FRNK; p125FAK; pp125FAK; PPP1R71
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL4</u>
E. coli Selection:	Ampicillin (100 ug/mL)
Fully Sequenced ORF:	>OriGene ORF within SC323641 sequence for NM_153831 edited (data generated by NextGen Sequencing)

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ATGGCAGCTGCTTACCTTGACCCCAACTTGAATCACACACAAATTCGAGTACTAAGACT
CACCTGGTACTGGTATGGAACGTTCTCCTGGTGAATGGAGCGAGTATTAAAGTCTTT
CATTATTTTAAAAGCAATAGTGAGCCAACCACTGGGCCAGTATTATCAGGCATGGAGAT
GCTACTGATGTCAGGGGCATCATTGAGAAGATAGTGGACAGTCACAAAAGTAAAGCATGTG
GCCTGCTATGATTCCGCCTCAGTCACCTGCGGTGAGAGGAGTTCACTGGCTTCACGTG
GATATGGGCGTCTCCAGTGTGAGGGAGAAGTATGAGCTTGCTCACCCACCAGAGGAGTGG
AAATATGAATTGAGAATTCGTTATTTGCCAAAAGGATTTCTAAACCAGTTTACTGAAGAT
AAGCCAACCTTTGAATTTCTTCTATCAACAGGTGAAGAGCGATTATATGTTAGAGATAGCT
GATCAAGTGGACCAGGAAATTGCTTTGAAGTTGGGTTGTCTAGAAATACGGCGATCATAC
TGGGAGATGCGGGCAATGCACTAGAAAAGAAGTCTAACTATGAAGTATTAGAAAAAGAT
GTTGGTTTAAAGCGATTTTTTCCCTAAGAGTTTACTGGATTCTGTCAAGGCCAAAACACTA
AGAAAACCTGATCCAACAACATTTAGACAATTTGCCAACCTTAATAGAGAAGAAAGTATT
CTGAAATCTTTGAGATCCTGTCTCCAGTCTACAGATTTGATAAGGAATGCTTCAAGTGT
GCTCTTGGTTCAAGCTGGATTATTTCAAGTGAAGTGGCAATCGGCCGAGAAGAAGGAATC
AGTTACCTAACGGACAAGGGCTGCAATCCCACACATCTTGCTGACTTCACTCAAGTGCAA
ACCATTCAGTATTCAAACAGTGAAGACAAGGACAGAAAAGGAATGCTACAACATAAAATA
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GCTGACCTAATAGATGGTACTGCGGCTGGTGAATGGAACCTCGCAGTCAATTTATCATC
AGACCTCAGAAAAGGTGAACGGCTTTGCCATCAATACCAAAGTTGGCCAACAGCGAA
AAGCAAGGCATGCGGACACACGCGTCTCTGTGTGAGAAACAGATGATTATGCTGAGATT
ATAGATGAAGAAGATACTTACACCATGCCCTCAACCAGGGATTATGAGATTCAAAGAGAA
AGAATAGAACTTGGACGATGATTGGAGAAGGCCAATTTGGAGATGTACATCAAGGCATT
TATATGAGTCCAGAGAATCCAGCTTTGGCGTTGCAATTAWRACATGTAAAACTGTACT
TCGGACAGCGTGAGAGAGAAATTTCTTCAAGAAGCCTTAAACAATGCGTCAGTTTGACCAT
CCTCATATTGTGAAGCTGATTGGAGTCATCACAGAGAATCCTGTCTGGATAATCATGGAG

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CTGTGCACACTTGGAGAGCTGAGGTCATTTTTGCAAGTAAGGAAATACAGTTTGGATCTA
GCATCTTTGATCCTGTATGCCTATCAGCTTAGTACAGCTCTTGCATATCTAGAGAGCAAA
AGATTTGTACACAGGGACATTGCTGCTCGGAATGTTCTGGTGTCTCAAATGATTGTGTA
AAATTAGGAGACTTTGGATTATCCCGATATATGGAAGATAGTACTTACTACAAAGCTTCC
AAAGGAAAATTGCCTATTAATGGATGGCTCCAGAGTCAATCAATTTTCGACGTTTTACC
TCAGCTAGTGACGTATGGATGTTTGGTGTGTATGTGGGAGATACTGATGCATGGTGTG
AAGCCTTTTCAAGGAGTGAAGAACAATGATGTAATCGGTGCAATTGAAAAATGGGAAAGA
TTACCAATGCCTCCAAATTTGCCTCCTACCCTCTACAGCCTTATGACGAAATGCTGGGCC
TATGACCCAGCAGGCGGCCAGGTTTACTGAACTTAAAGCTCAGCTCAGCACAATCCTG
GAGGAAGAGAAGGCTCAGCAAGAAGAGCGCATGAGGATGGAGTCCAGAAGACAGGCCACA
GTGTCCTGGGACTCCGGAGGGTCTGATGAAGCACCGCCAAGCCAGCAGACCGGTTAT
CCCAGTCCGAGGTCCAGCGAAGGATTTTATCCCAGCCACAGCACATGGTACAAACCAAT
CATTACCAGGTTTCTGGTACCCTGGTTCACATGGAATCACAGCCATGGCTGGCAGCATC
TATCCAGGTCCAGCATCTCTTTGGACCAACAGATTCATGGAATCATAGACCTCAGGAG
ATAGCAATGTGGCAGCCCAATGTGGAGGACTCTACAGTATTGGACCTGCGAGGGATTGGG
CAAGTGTGGCAACCCATCTGATGGAAGAGCGTCTAATCCGACAGCAACAGGAAATGGAA
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CGAGGCAGTATTGACAGGGAGGATGGAAGTCTTCAGGGTCCGATTGGAACCAACATATA
TATCAGCCTGTGGGTAACCAGATCCTGCAGCTCCACCAAGAAACCGCCTCGCCCTGGA
GCTCCCGTCACTGGGAAGCCTTGCCAGCCTCAGCAGCCTGCTGACAGCTACAACGAG
GGTGTCAAGCTTCAGCCCAGGAAATCAGCCCCCTCTACTGCCAACCTGGACCGGTGCG
AATGATAAGGTGTACGAGAATGTGACGGGCCTGGTGAAGCTGTCATCGAGATGTCCAGT
AAAATCCAGCCAGCCCCACCAGAGGAGTATGTCCTATGGTGAAGGAAGTCCGCTTGGCC
CTGAGGACATTATTGGCCACTGTGGATGAGACCATTCCCCTCCTACCAGCCAGCACCCAC
CGAGAGATTGAGATGGCAGAGAAGCTATTGAACTCTGACCTGGGTGAGCTCATCAACAAG
ATGAAACTGGCCAGCAGTATGTCATGACCAGCCTCCAGCAAGAGTACAAAAAGCAAATG
CTGACTGCTGCTCAGCCCTGGCTGTGGATGCCAAAACTTACTCGATGTCATTGACCAA
GCAAGACTGAAAATGCTTGGGCAGACGAGACCACACTGA
    
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Clone variation with respect to NM\_153831.3  
 1361 a=>w;1362 a=>r

**5' Read Nucleotide Sequence:**

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>OriGene 5' read for mutant NM_153831 unedited
CCC GCCGTTGAGCAATGGGCGGTAGGCGGTACGGTGGGAGGTCTATATAAGCAGAGCTCGTTTAGTGAA
CCGTCAGAATTTTGAATACGACTACTATAGGGCGCCGCGCCGAGCCGCGTCCGAGCAGAAGTGG
GGCTCCCTTGATCTTCCAGTTACAAATTCAGTGCCTTCTGCAGTTTCCCAGAGCTCCTCAAGAATAAC
GGAAGGGAGAATATGACAGATACCTAGCATCTAGCAAAATAATGGCAGCTGCTTACCTTGACCCCACTT
GAATCACACACCAAAATTCGAGTACTAAGACTCACCTGGGGTACTGGTATGGAACGTTCTCCTGGTTGCAT
TGGAGCGAGTATAAAAGTTCTTTTCATTATTTTTGAAGGCAATAGTGAGCCACCCACCTGGGCCAGTATT
ATCAGGCCTTGGGAAAGGCTACGGATGTAGGGGCATAATTAGGAGGAAGGGGGACGGCAACAAAGTAAA
CAATGGGGCTGCTAATGGATCCGCCCTGAGTCCTCGGGTCAAAGGAGGTTCACTGGTCTACCGGGGATA
GGCGCTCTCCAGTGTGAGGGGAAATGATAGAGCTTGCTCCCCACCAGAGAGTGAAAAATAGATGTGAAA
TTTCGATTTGCCAAGAGATTCAAACCTGTTTAGAGAAAACCCCTTTTGATTTCTTACACGGTGAAGAC
GATATGTGTAGAAACGCTACTGGCCCAATGTTTAGATTGGTGTCTTAATCGCGATCACTGGGAAGCGCG
CGATGCTCTAGAGTTATCTGAGTTTAAAAGTTGTTTAGCACTTCTCAGTACTGAGTTCAAGCGACATGG
AGAGCTACCATGCAGTGCCTTAGAAGTTCGAAGTTGGATGCGCCTTCATGTACAGTCAACGGGC
    
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<b>Kinase Domain Sequence:</b>	>SC323641 kinase domain raw sequence. By performing <a href="#">BLASTX</a> analysis with this sequence against NCBI reference protein database, you can confirm the presence of the kinase-deficient mutation GGMGATGTATTGGAGAGSCATTTGGAGATGTACATCAAGGCATTTATATGAGTCCAGAGAATCCAGCTTTGGCGGTTGCAATTATGACATGTAAAACTGTACTTCGGACAGCGTGAGAGAGAAAATTTCTTCAAGAAGCCTTAACAAATGCGTCAGTTTGACCATCCTCATATTGTGAAGCTGATTGGAGTCATCACAGAGAATCCTGTCTGGATAATCATGGAGCTGTGCACACTTGGAGAGCTGAGGTCATTTT
<b>Restriction Sites:</b>	Please inquire
<b>ACCN:</b>	NM_153831
<b>Insert Size:</b>	4700 bp
<b>OTI Disclaimer:</b>	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).
<b>OTI Annotation:</b>	This kinase-deficient mutant clone was generated by created by site-directed mutagenesis from the corresponding wild-type clone. See details in "Application of active and kinase-deficient kinome collection for identification of kinases regulating hedgehog signaling." <a href="#">Cell. 2008 May p536-548.</a>
<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>	<a href="#">NM_153831.2</a> , <a href="#">NP_722560.1</a>
<b>RefSeq Size:</b>	4453 bp
<b>RefSeq ORF:</b>	3159 bp
<b>Locus ID:</b>	5747
<b>UniProt ID:</b>	<a href="#">Q05397</a>
<b>Cytogenetics:</b>	8q24.3
<b>Domains:</b>	B41, pkinase, TyrKc, S_TKc, Focal_AT
<b>Protein Families:</b>	Druggable Genome, Protein Kinase
<b>Protein Pathways:</b>	Axon guidance, Chemokine signaling pathway, ErbB signaling pathway, Focal adhesion, Leukocyte transendothelial migration, Pathways in cancer, Regulation of actin cytoskeleton, Small cell lung cancer, VEGF signaling pathway

**Gene Summary:**

This gene encodes a cytoplasmic protein tyrosine kinase which is found concentrated in the focal adhesions that form between cells growing in the presence of extracellular matrix constituents. The encoded protein is a member of the FAK subfamily of protein tyrosine kinases but lacks significant sequence similarity to kinases from other subfamilies. Activation of this gene may be an important early step in cell growth and intracellular signal transduction pathways triggered in response to certain neural peptides or to cell interactions with the extracellular matrix. Several transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jun 2017]

Transcript Variant: This variant (1) differs in the 5' UTR and coding sequence compared to variant 2. The resulting isoform (a) is shorter at the N-terminus compared to isoform b.

Variants 1 and 5 both encode the same isoform (a).