

Product datasheet for **SC309949**

AF4 (AFF1) (NM_005935) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	AF4 (AFF1) (NM_005935) Human Untagged Clone
Tag:	Tag Free
Symbol:	AF4
Synonyms:	AF4; MLLT2; PBM1
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL4</u>
E. coli Selection:	Ampicillin (100 ug/mL)

Fully Sequenced ORF: >OriGene sequence for NM_005935 edited
 CTGAATTATGGCAGCCCAGTCAAGTTTGTACAATGACGACAGAAACCTGCTTCGAATTAG
 AGAGAAGGAAAGACGCAACCAGGAAGCCACCAAGAGAAAGAGGCATTTCTGAAAAGAT
 TCCCCTTTTTGGAGAGCCCTACAAGACAGCAAAAGGTGATGAGCTGTCTAGTCGAATACA
 GAACATGTTGGGAAACTACGAAGAAGTGAAGGAGTTCTTAGTACTAAGTCTCACACTCA
 TCGCCTGGATGCTTCTGAAAATAGGTTGGGAAAGCCGAAATATCCTTTAATTCCTGACAA
 AGGGAGCAGCATTCCATCCAGCTCCTTCCACACTAGTGTCCACCACCAGTCCATTACAC
 TCCTGCGTCTGGACCACTTTCTGTTGGCAACATTAGCCACAATCCAAAGATGGCGCAGCC
 AAGAACTGAACCAATGCCAAGTCTCCATGCCAAAAGCTGCGGCCACCGGACAGCCAGCA
 CCTGACCCAGGATCGCCTTGGTCAGGAGGGTTCGGCTCTAGTCATCACAAGAAAGGTGA
 CCGAAGAGCTGACGGAGACCACTGTGCTTCGGTGACAGATTCGGCTCCAGAGAGGGAGCT
 TTCTCCCTTAATCTCTTTGCCTTCCCCAGTTCGCCCTTTGTACCTATACATTCCAACCA
 GCAAACCTTTCGCCGGACGCAAGGAAGCAGCAAGGTTTCATGGCAGCAGCAATAACAGTAA
 AGGCTATTGCCAGCCAAATCTCCAAGGACCTAGCAGTAAAAGTCCATGATAAAGAGAC
 CCCTCAAGACAGTTTGGTGGCCCTGCCAGCCGCTTCTCAGACATTTCCACCTCCCTC
 CCTCCCTCAAAAAGTGTGCAATGCAGCAGAAGCCACGGCTTATGTCCGGCCCATGGA
 TGGTCAAGATCAGGCCCTAGTGAATCCCCTGAACTGAAACCACTGCCGGAGGACTATCG
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 AACGTCATCCATGCTCGAAGACGACCTTCAGCTCAGTGACAGTGAGGACAGTGACAGTGA
 ACAAAACCCAGAGAAGCCTCCCTCCTCATCTGCACCTCCAAGTGTCCACAGTCCCTTCC
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 CAGTTCTCAGACTCAGAGAGCGAGAGCAGTTCAAGTGCAGCGAAGAAAATGAGCCCT
 AGAAACCCAGCTCCGGAGCCTGAGCCTCAACAACAACAATGTCAGCTGGACAACCTG



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GCTGACCAAAGTCAGCCAGCCAGCTGCGCCACCAGAGGGCCCCAGGAGCACAGAGCCCC
 ACGGCGGCACCCAGAGAGTAAGGGCAGCAGCGACAGTGCCACGAGTCAGGAGCATTCTGA
 ATCCAAAGATCCTCCCCCTAAAAGCTCCAGCAAAGCCCCCGGGCCCCACCCGAAGCCCC
 CCACCCCGGAAAGAGGAGCTGTCAAGAAGTCTCCGGCACAGCAGGAGCCCCACAAAGGCA
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 CACAGGCACACCATCCCCTTTTCCCAATGCCTTCTCCTGCCAGCTCCGTAGGGTCCCA
 GTC AAGT GCTGGCAGTGTGGGAGCAGTGGGGTGGCTGCCACTATCAGCACCCAGTCAC
 CATCCAGAAATATGACATCTTCTATGTCACCATCACATCCCATGTTCTTACCGCCTTTGA
 CCTTTGGGAACAGGCCGAGGCCCTCACGAGGAAGAATAAAGAATTCTTTGCTCGGCTCAG
 CACAAATGTGTGCACCTTGGCCCTCAACAGCAGTTTGGTGGACCTGGTGCCTATACAGC
 ACAGGGTTTTTCAGCAGCTACAAGAATTAACCAAAACACCTTAATGGAGCCCCAGGTTGAT
 TCAATGCCTTGGGAATATTTTTGCACATTGGAAGCCTCAAAAACAGTCCAGACGTTTGT
 TTCATCAGGACACCAAACCTAAAAAAGAAGCACCACGAGATGGCCAGGACATTTGTCCA
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 TTAGCTTAAATGGGTGTATGAATGGTCTAGAAACATTTCTATTTTTTTTTTAAACCAGCA
 GGATACAAGTTGCAATGAAATGAGGAGAAACAGTTTCAACTCTGAAAGTGAATTTACAG
 TCATCTCAGTAGCCACGCTAGTCCATTCCAGAAGGAAATTTTTTTTTTTTAAACAATGACT
 TTTGGTAAAGGGTTTTGTGGATGATTTTTTTCTTTTGTGTTTTGGGAGAAATATTTGTT
 TAATAACTTCTAATGGCCATCTGTAACCATAAGTAATGAAGGACTCCACTGTGCCCCAC
 TTTCTGCCAATGAACAGTGGCTTGATAATAAAAAAAAAAAAAAAAAAAAAA

5' Read Nucleotide Sequence:	<p>>OriGene 5' read for NM_005935 unedited</p> <pre>GGCACGTCGGATATTTGTATACGACTTATATAGGCGGCCGCAATTCCCCTTTAACTGAA TATGGCAGCCCAGTCAAGTTTGTACAATGACGACAGAAACCTGCTTCCAATTAGAGAGAA GGAAAGACGCAACCAGGAAGCCACCAAGAGAAAGAGGCATTTCTGAAAAGATTCCCCT TTTTGGAGAGCCCTACAAGACAGCAAAGGTGATGAGCTGTCTAGTCGAATACAGAACAT GTTGGGAAACTACGAAGAAGTGAAGGAGTTCCTTAGTACTAAGTCTCACACTCATCGCCT GGATGCTTCTGAAAATAGGTTGGGAAAGCCGAAATATCCTTTAATTCCTGACAAAAGGGAG CAGCATTCCATCCAGCTCCTTCCACACTAGTGTCCACCAGTCCATTACACTCCTGC GTCTGGACCATTCTGTGGCAACATTAGCCACAATCCAAAGATGGCGCAGCCAAGAAC TGAACCAATGCCAAGTCTCCATGCCAAAAGCTGCGGCCACCAGGACAGCCAGCACCTGAC CCAGGATCGCCTTGGTCAGGAGGGGTTCCGGCTCTAGTCATCACAAGAAAGGTGACCGAAG AGCTGACGGAGACCAGTGTGCTTCGGTGACAGATTCGGCTCCAGAGAGGGAGCTTTCTCC CTTAATCTCTTTGCCTTCCCAGTCCCCTTTGTACCTATACATTCCAACCAGCAAACCT CTTCCCCGGACGCAAGGAAGCAGCAAAGGTCATGGCAGCAGCAATAACAGTAAAAGCTAT TGCCAGCCCAACCTCCAAGGACTAGCAATGAAAGTCCATGATAAAGAGACCCCTCAAG ACAGTTTGGTANCCCCCTGCCAACCGCCTTCTCAAATTTTCCACTTCTCCCTCCCCT CAA</pre>
3' Read Nucleotide Sequence:	<p>>OriGene 3' read for NM_005935 unedited</p> <pre>GGGGCGCCCTTTGGTGGATGGCAACTCCCAGTTCAGNANAGCACTGGGGCAGGGTCAC AGGGATGCCACCCGGGATCTGTTAGGAAACAGCTATGACCGCGCCGCAATCTAGAGTC GAGTTTTTTTTTTTTTTTTTTTTTATTATCAAGCCACTGTTCAATGGCAGAAAGTGGGGC ACAGTGGAGTCCTTACTTATGGTTTACAGATGGCCATTAGAAGTTATTAACAAAT ATTTCTCCAAAACCTCAAAGAAAAAAATCATCCAAAAACCTTTACCAAAGTCATT GTTAAAAAAAATTTCTTCTGGGAATGGACTAGCGTGGCTACTGAGATGACGTGAAA TTCACTTTCAGAGTTGAAACTGTTTCTCCTCATTTCACTTGTATCCTGCTGGT TTAAAAAAAATAGAAATGTTTCTAGACCATTACACCCATTTAAGCTAAATTGCAC TTCTGTCTTTAGTTAGGAAGGGCAAGATCATCTCTGGGGCCAGCCTCCTCATCTGCT TCTGCATAACCACAGTGTCCAACCAATGATCACACTGTTGTTGAGAGTTAAGTGGACAA ATGTCCTGGCCATCTCGTGGTGTCTTTTTTAGAGTTTGGTGTCTGATGAAACAAACG TCTGGACTGTTTTGAGGCTTCCATGTGCAAAAATAGTTCCCAAGGCTTTGAATCAACC TGGGGCTCCTTAAGTGTGGTTATTCTGTAGCTGCTGAAACCCTGCTGTGTTAGTG CCCCGGTCCAAAACTGCTGTTGAGGCCAAGTGAACATTTTTGCTGACCCACCAAAA ATCTTTATTTCTCGGAGGCCTCGGCTTGTCCAAAGTTAAGGCGGTAAAAACTGG GTG</pre>
Restriction Sites:	Please inquire
ACCN:	NM_005935
Insert Size:	4300 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).
OTI Annotation:	There is 1 nucleotide difference between the OriGene clone and the NCBI reference ORF. These result in the substitution of 1 aa and insertion of 1 aa.
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_005935.1](#), [NP_005926.1](#)

RefSeq Size: 9390 bp

RefSeq ORF: 9378 bp

Locus ID: 4299

UniProt ID: [P51825](#)

Cytogenetics: 4q21.3-q22.1

Domains: AF-4

Protein Families: Transcription Factors

Gene Summary: This gene encodes a member of the AF4/ lymphoid nuclear protein related to the Fragile X E syndrome (FRAXE) family of proteins, which have been implicated in human childhood lymphoblastic leukemia, fragile chromosome X intellectual disability, and ataxia. It is the prevalent mixed-lineage leukemia fusion gene associated with spontaneous acute lymphoblastic leukemia. Members of this family have three conserved domains: an N-terminal homology domain, an AF4/ lymphoid nuclear protein domain, and a C-terminal homology domain. The protein functions as a regulator of RNA polymerase II-mediated transcription through elongation and chromatin remodeling functions. Through RNA interference screens, this gene has been shown to promote the expression of CD133, a plasma membrane glycoprotein required for leukemia cell survival. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Jul 2017]

Transcript Variant: This variant (2) contains a distinct 5' UTR, uses an alternate translation start site, and uses an alternate in-frame splice site in the 3' coding region compared to variant 1. It encodes isoform 2, which has a shorter and distinct N-terminus compared to isoform 1. 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.