

## Product datasheet for **SC108889**

### **BAF53A (ACTL6A) (NM\_004301) Human Untagged Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	BAF53A (ACTL6A) (NM_004301) Human Untagged Clone
Tag:	Tag Free
Symbol:	BAF53A
Synonyms:	ACTL6; Arp4; ARPN-BETA; BAF53A; INO80K
Mammalian Cell Selection:	None
Vector:	<u><a href="#">pCMV6-XL5</a></u>
E. coli Selection:	Ampicillin (100 ug/mL)



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**Fully Sequenced ORF:** >OriGene sequence for NM\_004301 edited  
 GAATTCGGCACGAGGTGTGGCTGAGCTCCGGGGTGTGGACGCCGCTTTGTTGCCTGAG  
 ATGAAGTTGGAGCCCTTGTGTTTTGACATTGGATCCTATACTGTGAGAGCTGGTTATGCTG  
 GTGAGGACTGCCCAAGGTGGATTTTCTACAGCTATTGGTATGGTGGTAGAAAGAGATG  
 ACGGAAGCACATTAATGGAAATAGATGGCGATAAAGGCAAACAAGGCGGTCCCACCTACT  
 ACATAGATACTAATGCTCTGCGTGTCCGAGGGAGAATATGGAGGCCATTTACACCTCTAA  
 AAAATGGGATGGTTGAAGACTGGGATAGTTTCCAAGCTATTTGGATCATACCTACAAAA  
 TGCATGTCAAATCAGAAGCCAGTCTCCATCCTGTTCTCATGTGAGAGCACCGTGGAAATA  
 CTAGAGCAAAGAGAGAGAACTGACAGAGTTAATGTTTGAACACTACAACATCCCTGCCT  
 TCTTCTTTGCAAAACTGCAGTTTTGACAGCATTGCTAATGGTCTGTTCTACTGGGCTGA  
 TTTTGGACAGTGGAGCCACTCATACCACTGCAATTCAGTCCACGATGGCTATGCTCTTC  
 AACAAAGCATTGTGAAATCCCCTCTGCTGGAGACTTTTACTATGCAGTGCAGAGAAC  
 TCTTCAAAGAAATGAATATTGAATTGGTCTCCATATATGATTGCAACAAAAGAAGCTG  
 TTCGTGAAGGATCTCCAGCAAAGTGGAAAAGAAAAGAGAAGTTGCCTCAGTTACGAGGT  
 CTTGGCACAATTATATGTGTAATTGTGTTATCCAGGATTTTCAAGCTTCGGTACTTCAAG  
 TGTCAGATTCAACTTATGATGAACAAAGTGGCTGCACAGATGCCAACTGTTCAATTGAAT  
 TCCCAATGGCTACAATTGTGATTTTGGTGCAGAGCGGCTAAAGATTCCAGAAGGATTAT  
 TTGACCCTTCAAATGTAAAGGGTTATCAGGAAACACAATGTTAGGAGTCAGTCATGTTG  
 TCACCACAAGTGTGGGATGTGTGATATTGACATCAGACCAGGTCTCTATGGCAGTGTA  
 TAGTGGCAGGAGGAAACACACTAATACAGAGTTTTACTGACAGGTTGAATAGAGAGCTGT  
 CTCAAAAAAGTCTCCAAGTATGCGGTTGAAATGATTGCAAATAATAACAACAGTGGAAAC  
 GGAGGTTTAGCTCATGGATTGGCGGCTCCATTCTAGCCTCTTTGGGTACCTTTCAACAGA  
 GTGGATTCCAAGCAAGATATGAAGAAGGAGGGAAGCAGTGTGTAGAAAGAAAATGCC  
 CTTGAGAAAAGAGTTCCCAAGCTTCTACCTTCTTTTGTACCTTACGTTTCATAGCTTTA  
 GTATACTCAGGAAAAGAATGACCATCTTTTGTAGAATGTTTATACATTTTGCATATTTT  
 AATTTCCACTTAAATTTTTTAAAGCTTTAACTGGCTCTATAAATTAAGTTTGTGCTTTCC  
 TTGAAATGCACCTATTCTTATTACAAGCATTATAAATTTGTATAAATGTCTATTTTCT  
 CTAATATTTTGTCTTTCAGTAAAATGCTTTCCAAGTCTGTTTAGTGTATTAATTACCAGT  
 GGATTGGTAGAACTGCTTTTTATTGACTAGTAAAAGTTACTGCCTATGCTTTTTACCTTA  
 GGCTTACAGAATTAATAAAAAATTAGCCATTCCAGAAATATAAAAAAAAAAAAAAAAAAAAA  
 AAAAAAAAAAAAAAAAAAAAAACTCGAC

**5' Read Nucleotide Sequence:** >OriGene 5' read for NM\_004301 unedited  
 CCTTCGCCATTTGTATACGATTTACTATAGGGCGGCCGCGATTCCGGCAGGAGTCACT  
 TCGCCAGTTAGCCCTTAGGGTAGGAGTCGCGCCGGCAGCAGCCATGAGCGCGGCGGTGTA  
 CGGGGGAGATGAAGTTGGAGCCCTGTTTTTACATTGGATCCTATACTGTGAGAGCTGG  
 TTATGCTGGTGGAGACTGCCCAAGGTGGATTTTCTACAGCTATTGGTATGGTGGTAGA  
 AAGAGATGACGGAAGCACATTAATGGAAATAGATGGCGATAAAGGCAAACAAGGCGTCC  
 CACCTACTACATAGATACTAATGCTCTGCGTGTCCGAGGGAGAATATGGAGGCCATTTT  
 ACCTCTAAAAATGGGATGGTTGAAGACTGGGATAGTTTCCAAGCTATTTTGGATCATA  
 CTACAAAATGCATGTCAAATCAGAAGCCAGTCTCCATCCTGTTCTCATGTGAGAGCACC  
 GTGGAATACTAGAGCAAAGAGAGAGAACTGACAGAGTTAATGTTTGAACACTACAACAT  
 CCCTGCCTTCTTCTTTGCAAACTGCAGTTTTGACAGCATTGCTAATGGTCTGTTCTAC  
 TGGGCTGATTTTGGACAGTGGAGCCACTCATACCACTGCAATTCAGTCCACGATGGCTA  
 TGTCCTTCAACAAGGCATTGTGAAATCCCCTCTGCTGGAGACTNTACTATGCAGTG  
 CAGAGAAGTCTTCCAAGAAATGAATATTTGAATCGGTTCTCCCATATATGATTGCAAA  
 AAGAAGCTGTTCTGTGAAGGATCTCCAGCAAAGTGGAAAAGAAAAGAGAGTTGCCTCAGGT  
 TACGAGGTCTTGGCACAATTATATGTGTAATTGTGTTATCCAGATTTTTCAGCCTTCGTA  
 CTCCAAGAGTCAG

<b>3' Read Nucleotide Sequence:</b>	>OriGene 3' read for NM_004301 unedited TGTACCGCGGGCCGAATCTAGTATCGAGTTTTTTTTTTTTTTTTTTTTTTTATTCTGGAATGG CTAATTTTTATTTAATTCGTAGCCTAAGGTAAGCAATAGGCAGTAACCTTTACTAG TCAATAAAGCAGTTCTACCAATCCACTGGTAATTAATACACTAAACAGAGTTGGAAAG CATTTTACTGAAAGCAAAATATTTAGAGAAAATAGACATTTATACAAAATTATAAAATGC TTGTAATAAGAATAAGTGCATTTCAAGGAAAGCACAAACTTAATTTATAGAGCCAGTTAA AGCTTTAAAAAATTTAAGTGAAATTTGAAATATGCAAAAATGTATAAACATTCTACAAA GATGGTCAATTCCTTCTGAGTATACTAAAGCTATGAAACGTAAGGTGACAAAAGGAAGG TAGAAGCTTGGGAACCTTTCTCAAGGGCATTCTTTCTACACACTGCTTCCCTCCTTC TTCATATTCTTGCTTGGAAATCCACATCTGTTGAAAGGTACCCAAAGAGGCTAGAATGGA GCCGCAATCCATGAGCTAAACCTCCGTTCCACTGTTGTATTATTTGCAATCAATTTCAA CCGCATACTTGGAGGAGTTTTCTGAGACAGCTCTCTATTCAACCTGTCAGTAAAACCTG TATTAGTGTGTTTCTCCTGCCACTATTACACTGCCATAGAGACCTGGTCTGATGTCAAT ATCACACATCCCAACACTTGTGGTNGACACATGACTGACTCCTAACATGNNGTTCCTGAT ACCCCTTTACATTGGAAGGTNCAATAATCCCTTCTGAATCTTTTACCGCTCTGCACCAA TACAATTGTAGCCTTGGGGATTCTAATGAACAGTTGCATCTGGCAGCCACTGTTATCA TAAGTGATCTGACCTTGAAGACCGAACTGAAAATCTGGATAACATTACCTTATTGGGCC ACACTTGAAGTGGAGACTTTCTTCTTTCAGATGTGAAACTT
<b>Restriction Sites:</b>	NotI-NotI
<b>ACCN:</b>	NM_004301
<b>Insert Size:</b>	1930 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>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><a href="#">NM_004301.2</a></u> , <u><a href="#">NP_004292.1</a></u>
<b>RefSeq Size:</b>	1879 bp
<b>RefSeq ORF:</b>	1290 bp
<b>Locus ID:</b>	86
<b>UniProt ID:</b>	<u><a href="#">O96019</a></u>
<b>Cytogenetics:</b>	3q26.33
<b>Domains:</b>	ACTIN

**Protein Families:** Druggable Genome, Transcription Factors

**Gene Summary:** This gene encodes a family member of actin-related proteins (ARPs), which share significant amino acid sequence identity to conventional actins. Both actins and ARPs have an actin fold, which is an ATP-binding cleft, as a common feature. The ARPs are involved in diverse cellular processes, including vesicular transport, spindle orientation, nuclear migration and chromatin remodeling. This gene encodes a 53 kDa subunit protein of the BAF (BRG1/brm-associated factor) complex in mammals, which is functionally related to SWI/SNF complex in *S. cerevisiae* and *Drosophila*; the latter is thought to facilitate transcriptional activation of specific genes by antagonizing chromatin-mediated transcriptional repression. Together with beta-actin, it is required for maximal ATPase activity of BRG1, and for the association of the BAF complex with chromatin/matrix. Three transcript variants that encode two different protein isoforms have been described. [provided by RefSeq, Jul 2008]

Transcript Variant: This variant (1) encodes the longer isoform (a), which is also referred to as hArpNbeta/Baf53. Isoform a is found mostly in the nucleus.