

## Product datasheet for **MC229067**

### Itch (NM\_001243712) Mouse Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Itch (NM_001243712) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Itch
Synonyms:	6720481N21Rik; 8030492O04Rik; A130065M08; AIP4; C230047C07Rik
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**Fully Sequenced ORF:** >MC229067 representing NM\_001243712  
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGCTCGACAGTGGACCACAGCTTGATTCCATGGGTAGTCTGACCATGAAATCTCAACTTCAGATCACTG  
 TCATCTCAGCCAACTTAAAGAAAATAAAAAGAATTGGTTTGGACCAAGTCTTATGTAGAAGTCACAGT  
 AGATGGACAGTCAAAGAAGACAGAAAAATGCAATAATACAACAGTCCCAAGTGGAAAGCAGCCCTCACA  
 GTTATTGTTACCCTACGAGTAAATTATGTTTTCGTGTGTGGAGTACCAGACCTGAAGTCTGATGTTT  
 TATTGGAACTGCTGGATTAGATATTTATGAAACATTAAGTCAAACAATATGAACTTGAAGAAGTAGT  
 TATGACTTTGCAGCTTGTAGGTGACAAAGACCAACAGAGACGATGGGAGATTTGCAGTTTGTCTTGAT  
 GGGCTGCAAGTAGAAGCTGAGGTGTTACTAACGGTGAACGTCATGCTCCGAGAGTACTACACAGAATG  
 ATGATGGCTGCAGAACAGAGATGATACAAGAGTGAGCACAATGGATCAGAGGACCTGAGGTTGCAGC  
 GTCAGGGGAAAACAAGAGGGCCAAATGGGAACAATTCTCCGTCCCTTCAAATGGTGGTTTTAAGCCTTCT  
 AGACCTCTAGACCTTCGAGACCACCTCCACCCACCCACGAAGACCAGTTCGTGCAATGGCTCACCAT  
 CCACGAATTCTGACAGTATGGATCTAGTACAGGCTCCTTGCCACCAACAATAACAATGTAATACAAG  
 TACATCTGAAGGAGCAACATCTGGATTAATAATTCCTCTTACTATATCTGGAGGCTCGGGCCCTAGGCC  
 CTGAATACTGTAAGCCAAGCTCCCTACCACCTGGGTGGGAGCAGAGAGTAGACCAGCATGGGCGTGTTT  
 ACTATGTAGACCATGTTGAAAAGCGAACAAATGGGATAGACCAGAACCTTACCTCCTGGCTGGGAACG  
 GCGTGTGGACAATATGGGACGTATTTATGTTGATCATTTACAAGAACCACAACATGGCAGAGGCCA  
 ACCTTGGAACTGTCCGGAATGAAACAGTGGCAGCTACAGCGTAGTCAGCTTCAGGGAGCAATGCAGC  
 AGTTTAAACAGAGATTCATCTATGGGAATCAAGATTTGTTTGTACATCACAAAACAAGAAATTTGATCC  
 GCTTGGTCCGTTGCCCTGGATGGGAGAAGAGAAGTATGATGCAACGGCAGAGTATTTTGTCAACCAC  
 AACACTCGGATTACTCAGTGGGAAGACCCAGAAGCCAAGGTCAGTTAAATGAAAAGCCCTTACCAGAAG  
 GCTGGGAATGAGATTACAGTGGATGGAATCCATATTTTGGGACCACAATAGAAGAGCAACTACTTA  
 TATAGATCCACGAACGGGAAAATCAGCCTTAGACAATGGGCCCCAGATAGCCTATGTGCGGGACTTCAAG  
 GCAAAAAGTTCAGTATTTCCGTTCTGGTGCCAGCAACTGGCCATGCCACAGCATATAAAGATCACAGTGA  
 CAAGAAAAACATTGTTTGGAGTTCCTTTCAGCAGATCATGAGCTTCAGCCCGAAGACCTGAGAAGACG  
 TTTGTGGGTGATTTCCAGGAGAAGAAGTTTAGATTATGGAGGTGTAGCAAGAGAATGGTTCTTTCTT  
 TTGTCACATGAAGTGTGAACCAATGTATTGCCTGTTTGAATATGCAGGGAAGGATAACTACTGCCTGC  
 AGATAAACCCCGCTTCTTACATCAATCCAGACCCTGAAATACTTTCTGTTTTATTGGCAGATTTATTGC  
 CATGGCTCTGTTTCATGGGAAATTCATAGATACCGGATTTTCTTTACCATTCTATAAACGTATCCTGAAT  
 AAACCAGTTGGACTGAAGGATTTAGAATCTATTGATCCAGAATTTTATAATTCGCTCATCTGGGTTAAAG  
 AAAACAACATTGAAGAATGTGGTTTGGAAATGACTTCTCAGTTGATAAAGAAATTTAGGTGAAATTAAG  
 GAGTCATGATTTGAAACCAATGGTGGCAATATCTTGTGACAGAAGAAAACAAGGAGGAATACATCAGG  
 ATGGTAGCTGAGTGGAGGTTGTCTCGAGGTGTTGAAGAACAGACACAAGCTTTCTTTGAGGGCTTTAATG  
 AAATCTTCTCAGCAATATTTGCAATATTTTGTGCGAAGGAATTAGAGGTTCTTCTGTGTGGGATGCA  
 GGAGATTGATTTGAATGACTGGCAGAGACATGCCATCTACCGCCACTACACCAGAACAAGCAAGCAGATC  
 ATGTGTTTTGGCAGTTTGTAAAGAAATGATAATGAGAAGAGGATGAGACTTCTGCAGTTTGTACTG  
 GAACCTGCCGATTGCCAGTGGGAGGATTTGCTGACCTTATGGGGAGTAATGGACCACAGAAGTTCTGCAT  
 CGAAAAAGTTGGCAAAGAAAATGGTTACCAGAAGCCATACTTGTTTTAAACCGCTGGACCTCCCACCT  
 TACAAGAGCTATGAGCAACTGAAGGAAAAGCTGTTATTTGCCATTGAAGAACTGAAGGATTTGGACAAG  
 AGTAA

**ACGCGT**ACGCGGCCGCTCGAGCAGAAAACATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:** SgfI-MluI  
**ACCN:** NM\_001243712  
**Insert Size:** 2595 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>	Clone contains native stop codon, and expresses the complete ORF without any c-terminal tag.
<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>Note:</b>	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
<b>RefSeq:</b>	<u><a href="#">NM_001243712.1</a></u> , <u><a href="#">NP_001230641.1</a></u>
<b>RefSeq Size:</b>	5389 bp
<b>RefSeq ORF:</b>	2595 bp
<b>Locus ID:</b>	16396
<b>UniProt ID:</b>	<u><a href="#">Q8C863</a></u>
<b>Cytogenetics:</b>	2 76.94 cM

**Gene Summary:**

Acts as an E3 ubiquitin-protein ligase which accepts ubiquitin from an E2 ubiquitin-conjugating enzyme in the form of a thioester and then directly transfers the ubiquitin to targeted substrates (PubMed:15358865, PubMed:16446428, PubMed:17592138, PubMed:18628966, PubMed:20392206, PubMed:25632008). It catalyzes 'Lys-29', 'Lys-48'- and 'Lys-63'-linked ubiquitin conjugation (By similarity). Involved in the control of inflammatory signaling pathways (By similarity). Is an essential component of a ubiquitin-editing protein complex, comprising also TNFAIP3, TAX1BP1 and RNF11, that ensures the transient nature of inflammatory signaling pathways (By similarity). Promotes the association of the complex after TNF stimulation (By similarity). Once the complex is formed, TNFAIP3 deubiquitinates 'Lys-63' polyubiquitin chains on RIPK1 and catalyzes the formation of 'Lys-48'-polyubiquitin chains (By similarity). This leads to RIPK1 proteasomal degradation and consequently termination of the TNF- or LPS-mediated activation of NFkB1 (By similarity). Ubiquitinates RIPK2 by 'Lys-63'-linked conjugation and influences NOD2-dependent signal transduction pathways (By similarity). Regulates the transcriptional activity of several transcription factors involved in immune response (PubMed:15358865, PubMed:11828324). Ubiquitinates NFE2 by 'Lys-63' linkages and is implicated in the control of the development of hematopoietic lineages (By similarity). Mediates JUN ubiquitination and degradation (PubMed:15358865). Mediates JUNB ubiquitination and degradation (PubMed:11828324, PubMed:15358865). Critical regulator of type 2 helper T (Th2) cell cytokine production by inducing JUNB ubiquitination and degradation (PubMed:11828324). Involved in the negative regulation of MAVS-dependent cellular antiviral responses (By similarity). Ubiquitinates MAVS through 'Lys-48'-linked conjugation resulting in MAVS proteasomal degradation (By similarity). Following ligand stimulation, regulates sorting of Wnt receptor FZD4 to the degradative endocytic pathway probably by modulating PI42KA activity (By similarity). Ubiquitinates PI4K2A and negatively regulates its catalytic activity (By similarity). Ubiquitinates chemokine receptor CXCR4 and regulates sorting of CXCR4 to the degradative endocytic pathway following ligand stimulation by ubiquitinating endosomal sorting complex required for transport ESCRT-0 components HGS and STAM (By similarity). Targets DTX1 for lysosomal degradation and controls NOTCH1 degradation, in the absence of ligand, through 'Lys-29'-linked polyubiquitination (PubMed:18628966). Ubiquitinates SNX9 (By similarity). Ubiquitinates MAP3K7 through 'Lys-48'-linked conjugation (PubMed:25632008). Involved in the regulation of apoptosis and reactive oxygen species levels through the ubiquitination and proteasomal degradation of TXNIP (By similarity). Mediates the antiapoptotic activity of epidermal growth factor through the ubiquitination and proteasomal degradation of p15 BID (PubMed:20392206). Ubiquitinates BRAT1 and this ubiquitination is enhanced in the presence of NDFIP1 (By similarity).[UniProtKB/Swiss-Prot Function]

Transcript Variant: This variant (2) differs in the 5' UTR compared to variant 1. Variants 1 and 2 encode the same protein. Sequence Note: The RefSeq transcript and protein were derived from genomic sequence to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on alignments.