

## Product datasheet for MR228885

### Itk (NM\_001281967) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Itk (NM_001281967) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Itk
Synonyms:	Emt; Tcsk; Tsk
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>MR228885 representing NM_001281967 Red=Cloning site Blue=ORF Green=Tags(s)

TTTGTAAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCCGCGATCGCC

ATGAACAACCTTCATCCTCCTGGAAGAACAGCTGATCAAGAAGTCCCAACAGAAGAGAAGGACTTCTCCCT  
 CGAATTTTAAAGTTCGTTTCTTTGTCTTAACGAAAGCCAGCCTGGCCTACTTTGAGGACCGCCACGGGAA  
 GAAGCGCACGTTGAAGGGCTCCATTGAACTCTCCAGAATCAAGTGTGTGGAGATTGTCAAGAGTGACATT  
 AGCATCCCGTGCCACTATAAATACCCTTTTCAGGTCGTGCATGACAACTATCTCCTGTATGTGTTTGCTC  
 CAGACTGTGAGAGTCGGCAGCGCTGGGTGCTGACCCTTAAAGAAGAAACGAGGAATAACAACAGCCTGGT  
 ATCCAAGTATCACCTAATTTCTGGATGGATGGGCGGTGGAGGTGCTGCTCCAGCTGGAGAAGCCTGCT  
 GTAGGCTGTGCTCCCTACGACCCATCCAAGAATGCTTCAAAGAAGCCTCTTCTCCTACTCCTGAAGACA  
 ACAGGCGGTCAATTCAGGAACCTGAAGAAACCCTGGTCATTGCCTTGACGACTACCAAACCAACGACCC  
 TCAGGAGCTCGCACTGCGGTGTGATGAAGAGTACTACCTGCTGGACAGCTCCGAGATCCACTGGTGGAGG  
 GTTCAAGACAAAAATGGGCATGAAGGATATGCACCAAGCAGTTACCTGGTAGAAAAATCTCCAAATAACC  
 TTGAAACCTATGAGTGGTACAATAAAGCATCAGCCGCGACAAAGCTGAAAAACTCTTTTGGACACAGT  
 GAAGAAATGGACACGTATACTT

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA


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**Protein Sequence:** >MR228885 representing NM\_001281967

Red=Cloning site Green=Tags(s)

MNNFILLLEEQLIKKSQQKRRTPSPNFKVRFVFLTKASLAYFEDRHGKKRTLKGSIELSRIKCV EIVKSDI  
SIPCHYKYPFQVVHDNYLLYVFPDCESRQRWVLTKEETRNNSLSVKYHPNFWM DGRWRCCSQLEKPA  
VGCAPYDPSKNAASKPLPPTPEDNRRSFQEPEETLVIALYDYQTNDPQELALRCDEEYLLDSSEIHWWR  
VODKNGHEGYAPSSYLVEKSPNNLETYEYWNKISRDKA EKKLLLDTVKKWTRIL

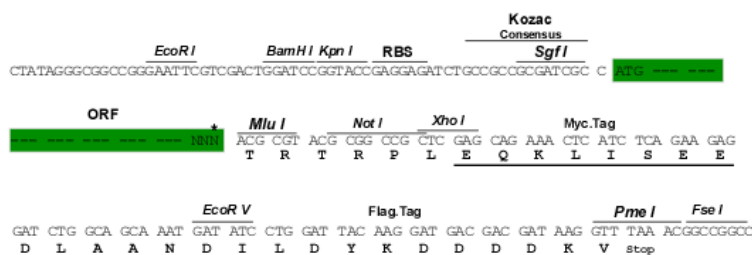
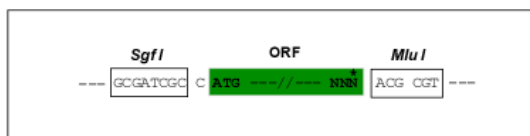
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

Sgfl-MluI

### Cloning Scheme:

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

ACCN: NM 001281967

ORF Size: 792 bp

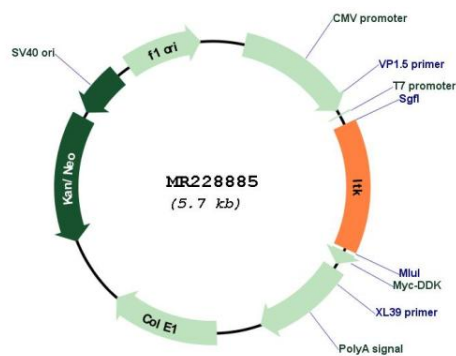
**OTI Disclaimer:** The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

**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).

<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>NM_001281967.1, NP_001268896.1</u>
<b>RefSeq Size:</b>	1276 bp
<b>RefSeq ORF:</b>	795 bp
<b>Locus ID:</b>	16428
<b>Cytogenetics:</b>	11 27.75 cM
<b>MW:</b>	31.7 kDa
<b>Gene Summary:</b>	<p>Tyrosine kinase that plays an essential role in regulation of the adaptive immune response. Regulates the development, function and differentiation of conventional T-cells and nonconventional NKT-cells. When antigen presenting cells (APC) activate T-cell receptor (TCR), a series of phosphorylation lead to the recruitment of ITK to the cell membrane, in the vicinity of the stimulated TCR receptor, where it is phosphorylated by LCK. Phosphorylation leads to ITK autophosphorylation and full activation. Once activated, phosphorylates PLCG1, leading to the activation of this lipase and subsequent cleavage of its substrates. In turn, the endoplasmic reticulum releases calcium in the cytoplasm and the nuclear activator of activated T-cells (NFAT) translocates into the nucleus to perform its transcriptional duty. Phosphorylates 2 essential adapter proteins: the linker for activation of T-cells/LAT protein and LCP2. Then, a large number of signaling molecules such as VAV1 are recruited and ultimately lead to lymphokine production, T-cell proliferation and differentiation. Phosphorylates TBX21 at 'Tyr-525' and mediates its interaction with GATA3 (PubMed:15662016).[UniProtKB/Swiss-Prot Function]</p>

## Product images:



Circular map for MR228885