

## 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  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**Cell Selection:** Neomycin  
**ORF Nucleotide Sequence:** >MR228885 representing NM\_001281967  
**Red=Cloning site Blue=ORF Green=Tags(s)**

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**GCGATCGCC**

ATGAACAACCTTCATCCTCCTGGAAGAACAGCTGATCAAGAAGTCCCAACAGAAGAGAAGGACTTCTCCCT  
CGAATTTTAAAGTTCGTTTCTTTGTCTTAACGAAAGCCAGCCTGGCCTACTTTGAGGACCGCCACGGGAA  
GAAGCGCACGTTGAAGGGCTCCATTGAACTCTCCAGAATCAAGTGTGTGGAGATTGTCAAGAGTGACATT  
AGCATCCCGTGCCACTATAAATACCCTTTTCAGGTCGTGCATGACAACTATCTCCTGTATGTGTTTGCTC  
CAGACTGTGAGAGTCGGCAGCGCTGGGTGCTGACCCTTAAAGAAGAAACGAGGAATAACAACAGCCTGGT  
ATCCAAGTATCACCTAATTTCTGGATGGATGGGCGGTGGAGGTGCTGCTCCAGCTGGAGAAGCCTGCT  
GTAGGCTGTGCTCCCTACGACCCATCCAAGAATGCTTCAAAGAAGCCTCTTCTCCTACTCCTGAAGACA  
ACAGGCGGTCAATTCAGGAACCTGAAGAAACCCTGGTCATTGCCTTGTACGACTACCAAACCAACGACCC  
TCAGGAGCTCGCACTGCGGTGTGATGAAGAGTACTACCTGCTGGACAGCTCCGAGATCCACTGGTGGAGG  
GTTCAAGACAAAAATGGGCATGAAGGATATGCACCAAGCAGTTACCTGGTAGAAAAATCTCCAAATAACC  
TTGAAACCTATGAGTGGTACAATAAAGCATCAGCCGCGACAAAGCTGAAAACTCTTTTGGACACAGT  
GAAGAAATGGACACGTATACTT

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA



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**Protein Sequence:** >MR228885 representing NM\_001281967  
Red=Cloning site Green=Tags(s)

MNNFILLLEEQLIKKSQQKRRTPSPNFKVRFFVLTKASLAYFEDRHGKKRTLKGSIELSRIKCV EIVKSDI  
 SIPCHYKYPFQVVDNYLLYVFPDCE SRQRWVLTKEETRNNSLVSKYHPNFWMDGRWRCCSQLEKPA  
 VGCAPYDPSKNASKKPLPPTPEDNRRSFQEP EETLVIALYDYQTNDPQELALRCDEEYLLDSSEIHWWR  
 VQDKNGHEGYAPSSYLVEKSPNNLETYEWYNKSI SRDKAEKLLLDTVKKWTRIL

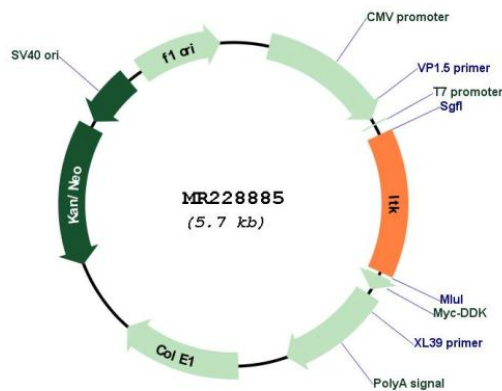
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**Plasmid Map:**



**ACCN:** NM\_001281967

**ORF Size:** 792 bp

<b>OTI Disclaimer:</b>	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. <a href="#">More info</a>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<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_001281967.1</a> , <a href="#">NP_001268896.1</a>
<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>