

## Product datasheet for **MC228504**

### **Itk (NM\_001281966) Mouse Untagged Clone**

#### **Product data:**

|                    |   |
|--------------------|---|
| Product Type:      | Expression Plasmids                     |
| Product Name:      | Itk (NM_001281966) Mouse Untagged Clone |
| Tag:               | Tag Free                                |
| Symbol:            | Itk                                     |
| Synonyms:          | Emt; Tcsk; Tsk                          |
| Vector:            | pCMV6-Entry (PS100001)                  |
| E. coli Selection: | Kanamycin (25 ug/mL)                    |
| Cell Selection:    | Neomycin                                |



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**Fully Sequenced ORF:** >MC228504 representing NM\_001281966  
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGAACAACCTTCATCCTCCTGGAAGAACAGCTGATCAAGAAGTCCCAACAGAAGAGAAGGACTTCTCCCT  
 CGAATTTTAAAGTTCGTTTCTTTGTCTTAACGAAAGCCAGCCTGGCCTACTTTGAGGACCGCCACGGGAA  
 GAAGCGCACGTTGAAGGGCTCCATTGAACTCTCCAGAATCAAGTGTGTGGAGATTGTCAAGAGTGACATT  
 AGCATCCCGTGCCACTATAAATACCCTTTTCAGGTCGTGCATGACAACATCTCCTGTATGTGTTTGCTC  
 CAGACTGTGAGAGTCGGCAGCGCTGGGTGCTGACCCTTAAAGAAGAAACGAGGAATAACAACAGCCTGGT  
 ATCCAAGTATCACCTAATTTCTGGATGGATGGCGGTGGAGGTGCTGCTCCAGCTGGAGAAGCCTGCT  
 GTAGGCTGTGCTCCCTACGACCCATCCAAGAATGCTTCAAAGAAGCCTCTTCTCCTACTCCTGAAGACA  
 ACAGGGTAAGTGAGCGGTCAATTCAGGAACCTGAAGAAACCTGGTCATTGCCTTGTACGACTACCAAAC  
 CAACGACCCTCAGGAGCTCGACTGCGGTGTGATGAAGAGTACTACCTGCTGGACAGCTCCGAGATCCAC  
 TGGTGGAGGGTTCAAGACAAAAATGGGCATGAAGGATATGCACCAAGCAGTTACCTGGTAGAAAAATCTC  
 CAAATAACCTTGAACCTATGAGTGGTACAATAAAAGCATCAGCCGCGACAAAGCTGAAAAAATTCTTTT  
 GGACACAGGTAAGAAGGAGCTTTCATGGTCCGAGATCCAGGACACCCGGGACATACACAGTCTCTGTT  
 TTCACCAAGGCCATCATAAGTGAGAACCCTGTATAAAACATTATCACATCAAAGAAACAAATGACAGCC  
 CCAAGCGTACTACGTGGCTGAGAAGTATGTGTTTGACTCCATCCCTCTCCTCATCCAGTATCACAGTA  
 CAATGGAGGAGGTTTGGTCACTCGACTCCGCTATCCAGTTTGCTCCTGGAGACAAAAAGCCCTGTCA  
 GCAGGGTAAGATATGGGAAGTGGGTGATCCAACCCTCAGAGTAAAGTTCGTCGAGGAGATTGGCAGCG  
 GGCAGTTTGGGCTGGTGCATCTCGGCTACTGGCTCAACAAGGACAAGGTGGCCATCAAGACCATTCAGGA  
 AGGGGCGATGTCAGAAGAAGACTTTATCGAGGAGGCGGAAGTCATGATGAAACTCTCTACCCCAAACCTG  
 GTGCAGCTCTATGGGTTGTCCTGGAGCAAGCCCCATCTGCCTGGTGTGTTGAGTTCATGGAGCACGGCT  
 GCCTGTGGATTACCTTGAAGTCAGCGGGTCTCTTTGCTGCGGAGACCCTGCTGGGCATGTGCCTGGA  
 TGTGTGTGAGGGCATGGCCTACCTGAAAAAGCTTGTGTCATCCACAGAGACCTGGCAGCCAGAACTGT  
 TTGGTGGGAGAAAACCAGGTATCAAGGTGTCCGACTTTGGGATGACAAGATTTGCTTGTATGATCAAT  
 ATACCAGTCCACGGCACCAAATTCAGTGAAGTGGGCATCCACAGAGGTGTTCTCCTTTAGTCGCTA  
 TAGCAGCAAGTCAGATGTGTGGTGTGTTGGTGTACTGATGTGGGAAGTCTTCAGTGAAGGCAAAATCCCA  
 TACGAAAACCGAAGCAATTCGAGGTCGTGGAAGATATCAGCACTGGCTTCGGTTATACAAGCCCCGCC  
 TGGCCTCCTGTATGCTACCAGATCATGAATCATTGCTGAAAAGAGAAACCAGAAGACCGGCCACCCCT  
 CTCCAGCTGTTAAGCCAGCTGGCTGAAATCGCAGAAGCTGGGCTT**AG**

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

- Restriction Sites:** SgfI-MluI
- ACCN:** NM\_001281966
- Insert Size:** 1869 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:** Clone contains native stop codon, and expresses the complete ORF without any c-terminal tag.
- 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\\_001281966.1](#), [NP\\_001268895.1](#)

**RefSeq Size:** 4283 bp

**RefSeq ORF:** 1869 bp

**Locus ID:** 16428

**UniProt ID:** [Q03526](#)

**Cytogenetics:** 11 27.75 cM

**Gene Summary:** 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]

Transcript Variant: This variant (3) uses two alternate in-frame splice sites in the central coding region, compared to variant 1. The encoded isoform (3) is shorter, compared to isoform 1.