

Product datasheet for **MC228512**

Itk (NM_001281965) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Itk (NM_001281965) 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: >MC228512 representing NM_001281965
Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGGATCGCC**

ATGAACAACCTTCATCCTCCTGGAAGAACAGCTGATCAAGAAGTCCCAACAGAAGAGAAGGACTTCTCCCT
CGAATTTTAAAGTTCGTTTCTTTGTCTTAACGAAAGCCAGCCTGGCCTACTTTGAGGACCGCCACGGGAA
GAAGCGCACGTTGAAGGGCTCCATTGAACTCTCCAGAATCAAGTGTGTGGAGATTGTCAAGAGTGACATT
AGCATCCCGTGCCACTATAAATACCCTTTTCAGACTCTTGTGACTTACAGGTCGTGCATGACAATATC
TCCTGTATGTGTTTGTCCAGACTGTGAGAGTCGGCAGCGCTGGGTGCTGACCCTAAAGAAGAAACGAG
GAATAACAACAGCCTGGTATCCAAGTATCACCTAATTTCTGGATGGATGGGCGGTGGAGGTGCTGCTCC
CAGCTGGAGAAGCCTGCTGTAGGCTGTGCTCCCTACGACCCATCCAAGAATGCTTCAAAGAAGCCTCTTC
CTCCTACTCCTGAAGACAACAGGCGGTCAATTCAGGAACCTGAAGAAACCCTGGTATTGCCTTGTACGA
CTACCAAACCAACGACCCTCAGGAGCTCGCACTCGGGTGTGATGAAGAGTACTACCTGCTGGACAGCTCC
GAGATCCACTGGTGGAGGGTTCAAGACAAAAATGGGCATGAAGGATATGCACCAAGCAGTTACCTGGTAG
AAAAATCTCCAAATAACCTTGAAACCTATGAGTGGTACAATAAAAGCATAGCCCGGACAAAAGCTGAAAA
ACTTCTTTTGACACAGGTAAAGAAGGAGCTTTCATGGTCCGAGATTCAGGACACCCGGGACATACACA
GTCTCTGTTTTACCAAGGCCATCATAAGTGAGAACCCCTGTATAAAACATTATCACATCAAAGAAACAA
ATGACAGCCCCAAGCGCTACTACGTGGCTGAGAAGTATGTGTTTGACTCCATCCCTCTCCTCATCCAGTA
TCACCAGTACAATGGAGGAGTTTGGTCACTCGACTCCGCTATCCAGTTTGTCTCTGGAGACAAAAGCC
CCTGTACAGCAGGGCTAAGATATGGGAAGTGGGTGATCCAACCCTCAGAGCTAACGTTCTGTGCAGGAGA
TTGGCAGCGGGCAGTTTGGGCTGGTGCATCTCGGCTACTGGCTCAACAAGGACAAGGTGGCCATCAAGAC
CATTTCAGGAAGGGCGATGTGAGAAGAAGACTTTATCGAGGAGCGGAAGTCATGATGAAACTCTCTCAC
CCCAAACCTGGTGCAGCTCTATGGGGTGTGCTGGAGCAAGCCCCATCTGCCTGGTGTGTTGAGTTCATGG
AGCACGGCTGCCTGTCGATTACCTTCGAAGTCAGCGGGTCTCTTTGCTGCGGAGACCCTGCTGGGCAT
GTGCTGGATGTGTGAGGGCATGGCCTACCTGGAAAAAGCTTGTGTCATCCACAGAGACCTGGCAGCC
AGAAACTGTTGGTGGGAGAAAACAGGTATCAAGGTGTCCGACTTTGGGATGACAAGATTTGCTCTTG
ATGATCAATATACCAGCTCCACGGGCACCAATCCCAGTGAAGTGGGCATCCCCAGAGGTGTTCTCCTT
TAGTCGCTATAGCAGCAAGTCAGATGTGTGCTGTTTGGTGTACTGATGTGGGAAGTCTTCAGTGAAGGC
AAAATCCCATACGAAAACCGAAGCAATTCGAGGTCGTGGAAGATATCAGCACTGGCTTTGCTTATACA
AGCCCCGCTGGCTCCTGTCTACAGATCATGAATCATTGCTGGAAAGAGAAACCAAGAACCG
GCCACCCTTCTCCAGCTGTTAAGCCAGCTGGCTGAAATCGCAGAAGCTGGGCTT**TAG**

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites: SgfI-MluI
ACCN: NM_001281965
Insert Size: 1878 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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: 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_001281965.1](#), [NP_001268894.1](#)

RefSeq Size: 4292 bp

RefSeq ORF: 1878 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 (1) represents the longest transcript and encodes the longest isoform (1).