

Product datasheet for **MR230697**

Itk (NM_001281968) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Itk (NM_001281968) 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)



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ORF Nucleotide Sequence:

>MR230697 representing NM_001281968
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGAACAACCTTCATCCTCCTGGAAGAACAGCTGATCAAGAAGTCCCAACAGAAGAGAAGGACTTCTCCCT
 CGAATTTTAAAGTTCGTTTCTTTGTCTTAACGAAAGCCAGCCTGGCCTACTTTGAGGACCGCCACGGGAA
 GCGCACGTTGAAGGGCTCCATTGAACTCTCCAGAATCAAGTGTGTGGAGATTGTCAAGAGTGACATTAGC
 ATCCCGTGCCACTATAAATACCCCTTTTCAGGTCGTGCATGACAACTATCTCCTGTATGTGTTTGCTCCAG
 ACTGTGAGAGTCGGCAGCGCTGGGTGCTGACCCCTAAAGAAGAAACGAGGAATAACAACAGCCTGGTATC
 CAAGTATCACCCTAATTTCTGGATGGATGGGCGGTGGAGGTGCTGCTCCCAGCTGGAGAAGCCTGCTGTA
 GGCTGTGCTCCCTACGACCCATCCAAGAATGCTTCAAAGAAGCCTCTTCTCCTACTCCTGAAGACAACA
 GCGCGTCATTTAGGAACCTGAAGAAACCTGGTCATTGCCTGTACGACTACCAAACCAACGACCCCTCA
 GGAGCTCGCACTCGGGTGTGATGAAGAGTACTACCTGCTGGACAGCTCCGAGATCCACTGGTGGAGGGTT
 CAAGACAAAAATGGGCATGAAGGATATGCACCAAGCAGTTACCTGGTAGAAAAATCTCCAATAACCTTG
 AACCTATGAGTGGTACAATAAAAGCATCAGCCGCGACAAGCTGAAAAACTTCTTTTGGACACAGGTAA
 AGAAGGAGCTTTTCATGGTCCGAGATTCAGGACACCCGGGACATACACAGTCTCTGTTTTTACCAAGGCC
 ATCATAAGTGAGAACCCCTGTATAAAACATTATCACATCAAAGAAACAAATGACAGCCCCAAGCGCTACT
 ACGTGGCTGAGAAGTATGTGTTTACTCCATCCCTCTCCTCATCCAGTATCACCAGTACAATGGAGGAGG
 TTTGGTCACTCGACTCCGCTATCCAGTTTGCTCCTGGAGACAAAAAGCCCTGTACAGCAGGGCTAAGA
 TATGGGAAGTGGGTGATCCAACCTCAGAGTAACTGCTGCAGGAGATTGGCAGCGGGCAGTTTGGGC
 TGGTGCATCTCGGCTACTGGCTCAACAAGGACAAGGTGGCCATCAAGACCATTAGGAAGGGGCGATGTC
 AGAAGAAGACTTTATCGAGGAGCGGAAGTCATGATGAAACTCTCTACCCCAAACCTGGTGCAGCTCAT
 GGGGTGTGCCTGGAGCAAGCCCCATCTGCCTGGTGTGTTGAGTTCATGGAGCACGGCTGCCTGTCGGATT
 ACCTTCGAAGTCAGCGGGTCTCTTTGCTGCGGAGACCCTGCTGGGCATGTGCCTGGATGTGTGTGAGGG
 CATGGCTACCTGAAAAAGCTTGTGTCATCCACAGAGACCTGGCAGCCAGAACTGTTTGGTGGGAGAA
 AACAGGTATCAAGGTGTCGACTTTGGGATGACAAGATTTGCTTGTGATCAATATACCAGCTCCA
 CGGGCACCAAATCCCAGTGAAGTGGGCATCCCCAGAGGTGTTCTCTTTAGTCGCTATAGCAGCAAGTC
 AGATGTGTGGTCTTTGGTGTACTGATGTGGGAAGTCTCAGTGAAGGCAAAATCCCATACGAAAACCGA
 AGCAATCCGAGGTCGTGGAAGATATCAGCACTGGCTTTTCGGTTATACAAGCCCCGCTGGCCTCCTGTC
 ATGCTACCAGATCATGAATCATTGCTGGAAGAGAAACCAAGACCGCCACCCTTCTCCAGCTGTT
 AAGCCAGCTGGCTGAAATCGCAGAAGCTGGGCTT

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>MR230697 representing NM_001281968
 Red=Cloning site Green=Tags(s)

MNFI LLEEQLIKKSQKRRTPSPNFKVRFFVLTKASLAYFEDRHGKRTLKGSIELSRIKVEIVKSDIS
 IPCHYKYPFQVVDNYLLVVFAPDCESRQRWVLTKEETRNNSLVSKYHPNFWMDGRWRCCSQLEKPAV
 GCAPYDPSKNASKKPLPPTPEDNRRSFQEPEETLVIALYDYQTNDPQELALRCDEEYLLDSEIHWWRV
 QDKNGHEGYAPSSYLVEKSPNNLETYEWYKNSISRDKAEKLLDGTGKEGAFMVRDSRTPGTYTYSVFTKA
 IISENPCIKHYYIKETNDSPKRYVAEKYVFDIPLLIQYHQYNGGGLVTRLRYPVCSWRQKAPVTAGLR
 YGKWIQPSLTFVQIEIGSQFGLVHLGYWLNKDKVAIKTIQEGAMSEEDFIEEAEMMKLSHPKLVQLY
 GVCLEQAPICLVFEFMEHGCLSDYLRSQLFAAETLLGMCLDVCEGMAYLEKACVIHRDLAARNCLVGE
 NQVIKVSDFGMTRFVLDQYTSSTGTFKFPVKWASPEVFSFSRYSSKSDVWSFGVLMWEVSEKIPYENR
 SNSEVVEDISTGFRLYKPRLASCHVYQIMNHCWKEKPEDRPPFSQLLSQLAEIAEAGL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_001281968

ORF Size: 1854 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).

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_001281968.1](#), [NP_001268897.1](#)

RefSeq Size: 4271 bp

RefSeq ORF: 1857 bp

Locus ID: 16428

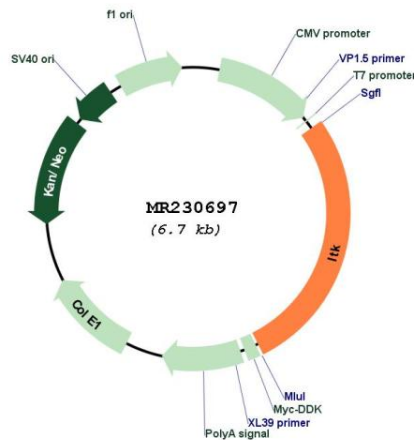
UniProt ID: [Q03526](#)

Cytogenetics: 11 27.75 cM

MW: 71.9 kDa

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]

Product images:



Circular map for MR230697