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Product datasheet for SC323408

BTK (NM_000061) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	BTK (NM_000061) Human Untagged Clone
Tag:	Tag Free
Symbol:	BTK
Synonyms:	AGMX1; AT; ATK; BPK; IGHD3; IMD1; PSCTK1; XLA
Mammalian Cell Selection:	None
Vector:	pCMV6-XL5
E. coli Selection:	Ampicillin (100 ug/mL)

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Fully Sequenced ORF:

>OriGene ORF within SC323408 sequence for NM_000061 edited (data generated by NextGen Sequencing)

ATGGCCGCAGTGATTCTGGAGAGCATCTTTCTGAAGCGATCCCAACAGAAAAAGAAAACA
TCACCTCTAAACTTCAAGAAGCGCCTGTTTCTCTTGACCGTGCACAAACTCTCCTACTAT
GAGTATGACTTTGAACGTGGGAGAAGAGGCAGTAAGAAGGGTTCAATAGATGTTGAGAAG
ATCACTTGTGTTGAAACAGTGGTTCCTGAAAAAAATCCTCCTCCAGAAAGACAGATTCCG
AGAAGAGGTGAAGAGTCCAGTGAAATGGAGCAAATTTCAATCATTGAAAGGTTCCCTTAT
CCCTTCCAGGTTGTATATGATGAAGGGCCTCTCTACGTCTTCTCCCCAACTGAAGAACTA
AGGAAGCGGTGGATTCACCAGCTCAAAAACGTAATCCGGTACAACAGTGATCTGGTTCAG
AAATATCACCCTTGCTTCTGGATCGATGGGCAGTATCTCTGCTGCTCTCAGACAGCCAAA
AATGCTATGGGCTGCCAAATTTTGGAGAACAGGAATGGAAGCTTAAAACCTGGGAGTTCT
CACCGGAAGACAAAAAAGCCTCTTCCCCCAACGCCTGAGGAGGACCAGATCTTGAAAAAG
CCACTACCGCCTGAGCCAGCAGCAGCACCAGTCTCCACAAGTGAGCTGAAAAAGGTTGTG
GCCCTTTATGATTACATGCCAATGAATGCAAATGATCTACAGCTGCGGAAGGGTGATGAA
TATTTTATCTTGGAGGAAAGCAACTTACCATGGTGGAGAGCACGAGATAAAAATGGGCAG
GAAGGCTACATTCCTAGTAACTATGTCACTGAAGCAGAAGACTCCATAGAAATGTATGAG
TGGTATTCCAAACACATGACTCGGAGTCAGGCTGAGCAACTGCTAAAGCAAGAGGGGAAA
GAAGGAGGTTTCATTGTCAGAGACTCCAGCAAAGCTGGCAAATATACAGTGTCTGTGTTT
GCTAAATCCACAGGGGACCCTCAAGGGGTGATACGTCATTATGTTGTGTGTTCCACACCT
CAGAGCCAGTATTACCTGGCTGAGAAGCACCTTTTCAGCACCATCCCTGAGCTCATTAAC
TACCATCAGCACAACTCTGCAGGACTCATATCCAGGCTCAAATATCCAGTGTCTCAACAA
AACAAGAATGCACCTTCCACTGCAGGCCTGGGATACGGATCATGGGAAATTGATCCAAAG
GACCTGACCTTCTTGAAGGAGCTGGGGACTGGACAATTTGGGGTAGTGAAGTATGGGAAA
TGGAGAGGCCAGTACGACGTGGCCATCATGATGATCAAAGAAGGCTCCATGTCTGAAGAT
GAATTCATTGAAGAAGCCAAAGTCATGATGAATCTTTCCCATGAGAAGCTGGTGCAGTTG
TATGGCGTCTGCACCAAGCAGCGCCCCATCTTCATCATCACTGAGTACATGGCCAATGGC
TGCCTCCTGAACTACCTGAGGGAGATGCGCCACCGCTTCCAGACTCAGCAGCTGCTAGAG
ATGTGCAAGGATGTCTGTGAAGCCATGGAATACCTGGAGTCAAAGCAGTTCCTTCACCGA
GACCTGGCAGCTCGAAACTGTTTGGTAAACGATCAAGGAGTTGTTAAAGTATCTGATTTC
GGCCTGTCCAGGTATGTCCTGGATGATGAATACACAAGCTCAGTAGGCTCCAAATTTCCA
GTCCGGTGGTCCCCACCGGAAGTCCTGATGTATAGCAAGTTCAGCAGCAAATCTGACATT
TGGGCTTTTGGGGTTTTGATGTGGGAAATTTACTCCCTGGGGAAGATGCCATATGAGAGA
TTTACTAACAGTGAGACTGCTGAACACATTGCCCAAGGCCTACGTCTCTACAGGCCTCAT
CTGGCTTCAGAGAAGGTATATACCATCATGTACAGTTGCTGGCATGAGAAAGCAGATGAG
CGTCCCACTTTCAAAATTCTTCTGAGCAATATTCTAGATGTCATGGATGAAGAATCCTGA

Clone variation with respect to NM_000061.2
1289 a=>t

5' Read Nucleotide Sequence:

>OriGene 5' read for mutant NM_000061 unedited

CCGCCGTTGAGCAATGGGCGGTAGGCGTGTACGGTGGGAGGTCTATATAAGCAGAGCTCGTTTAGTGAAC
CGTCAGAATTTTGTAATACGACTCACTATAGGGCGGCCGCGAATTCGGCACGAGGCCAGGGCCAGTGTCT
GCTGCGATCGAGTCCCACCTTCCAAGTCCTGGCATCTCAATGCATCTGGGAAGCTACCTGCATTAAGTCA
GGACTGAGCACACAGGTGAACTCCAGAAAGAAGAAGCTATGGCCGCAGTGATTCTGGAGAGCATCTTTCT
GAAGCGATCCCAACAGAAAAAGAAAACATCACCTCTAAACTTCAGAAGCGCCTGTTTCTCTTGACCGTGC
ACAAACTCTCCTACTATGAAGTATGACTTTGAACGTGGAAAAAGGCAGTAAGAAGGGTTCAATAGATGTG
AGAAGATCACTTTGTGTGGAACGTGGTCCGGAAAAATCTCTCCGAAGAGAGATTCCAAAAAGTGAGAGTC
CATGAAATGGCCAATTCATCATGGAGGGTCCTTACCTTCAGTTGAATGAGCGAGCCCAC

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Kinase Domain Sequence:

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>SC323408 kinase domain raw sequence. By performing BLASTX analysis with this sequence
against NCBI refernce protein database, you can confirm the presence of the kinase-
deficient mutation
CAACGTCTGAGASTGGGGMTGGACATTTGGGGTAGTGAAGTATGGGAAATGGAGAGGCCAGTACGACGTG
GCCATCATGATGATCAAAGAAGGCTCCATGTCTGAAGATGAATTCATTGAAGAAGCCAAAGTCATGATGA
ATCTTTCCCATGAGAAGCTGGTGCAGTTGTATGGCGTCTGCACCAAGCAGCGCCCCATCTTCATCATCAC
TGAGTACATGGCCAATGGCTGCCTCCTGAACTACCTGAGGGAGAT
```

Restriction Sites: Please inquire

ACCN: NM_000061

Insert Size: 2790 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: This kinase-deficient mutant clone was generated by created by site-directed mutagenesis from the corresponding wild-type clone. See details in "Application of active and kinase-deficient kinome collection for identification of kinases regulating hedgehog signaling." Cell. 2008 May p536-548.

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_000061.1, NP_000052.1

RefSeq Size: 2591 bp

RefSeq ORF: 1980 bp

Locus ID: 695

UniProt ID: Q06187

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Cytogenetics:	Xq22.1
Domains:	pkinase, SH2, TyrKc, SH3, BTK, PH, S_TKc
Protein Families:	Druggable Genome, Protein Kinase
Protein Pathways:	B cell receptor signaling pathway, Fc epsilon RI signaling pathway, Primary immunodeficiency
Gene Summary:	The protein encoded by this gene plays a crucial role in B-cell development. Mutations in this gene cause X-linked agammaglobulinemia type 1, which is an immunodeficiency characterized by the failure to produce mature B lymphocytes, and associated with a failure of Ig heavy chain rearrangement. Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Dec 2013] Transcript Variant: This variant (1) encodes isoform 1.

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