

## Product datasheet for **RC400948**

### **BTK (NM\_000061) Human Mutant ORF Clone**

#### **Product data:**

Product Type:	Mutant ORF Clones
Product Name:	BTK (NM_000061) Human Mutant ORF Clone
Mutation Description:	R520X
Affected Codon#:	520
Affected NT#:	1558
Nucleotide Mutation:	BTK Mutant (R520X), Myc-DDK-tagged ORF clone of Homo sapiens Bruton agammaglobulinemia tyrosine kinase (BTK) as transfection-ready DNA
Effect:	Ammlobulinemi
Symbol:	BTK
Synonyms:	AGMX1; AT; ATK; BPK; IGHD3; IMD1; PSCTK1; XLA
E. coli Selection:	Kanamycin (25 ug/mL)
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
Tag:	Myc-DDK
ACCN:	NM_000061
ORF Size:	1557 bp
Restriction Sites:	Sgfl-Mlul



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**ORF Nucleotide Sequence:**

>RC400948 representing NM\_000061  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**GCGATCGCC**

ATGGCCGAGTATTCTGGAGAGCATCTTTCTGAAGCGATCCCAACAGAAAAAGAAAACATCACCTCTAA  
 ACTTCAAGAAGCGCTGTTTCTTTGACCGTGCACAACTCTCCTACTATGAGTATGACTTTGAACGTGG  
 GAGAAGAGGCAGTAAGAAGGTTCAATAGATGTTGAGAAGATCACTTGTGTTGAAACAGTGGTTCCTGAA  
 AAAAACTCTCCTCCAGAAAGACAGATTCGAGAAGAGGTGAAGAGTCCAGTGAATGGAGCAAATTTCAA  
 TCATTGAAAGGTTCCCTTATCCCTTCCAGGTTGTATATGATGAAGGGCCTCTCTACGCTCTCTCCCAAC  
 TGAAGAATAAGGAAGCGGTGGATTACCAGCTCAAAAACGTAATCCGGTACAACAGTATCTGGTTCAG  
 AAATATCACCTTGTCTTGGATCGATGGCAGTATCTCTGCTCTCAGACAGCCAAAAATGCTATGG  
 GCTGCCAAATTTGGAGAACAGGAATGGAAGCTTAAAACCTGGGAGTTCTCACCGAAGACAAAAAGCC  
 TCTTCCCAACGCCTGAGGAGGACCAGATCTGAAAAAGCCACTACCGCTGAGCCAGCAGCAGCACCA  
 GTCTCCACAAGTGAGCTGAAAAAGGTTGTGGCCCTTTATGATTACATGCCAATGAATGCAATGATCTAC  
 AGCTGCGGAAGGGTATGAATATTTTATCTTGGAGGAAAGCAACTTACCATGGTGGAGAGCACGAGATAA  
 AAATGGGACAGGAGGCTACATTCCTAGTAACTATGCTACTGAAGCAGAAGACTCCATAGAAATGTATGAG  
 TGGTATTCAAACACATGACTCGGAGTCAGGCTGAGCAACTGCTAAAGCAAGAGGGGAAAGAAGGAGGTT  
 TCATTGTCAGAGACTCCAGCAAAGCTGGCAAATATACAGTGTCTGTGTTGCTAAATCCACAGGGGACCC  
 TCAAGGGGTGATACGTCATTATGTTGTGTGTTCCACACCTCAGAGCCAGTATTACCTGGCTGAGAAGCAC  
 CTTTTCAGCACCATCCCTGAGCTCATTAACTACCATCAGCACAACCTCTGCAGGACTCATATCCAGGCTCA  
 AATATCCAGTGTCTCAACAAAAAAGAATGCACCTTCCACTGCAGGCCCTGGGATACGGATCATGGAAAT  
 TGATCCAAAGGACCTGACCTTCTTGAAGGAGCTGGGGACTGGACAATTTGGGGTGTGAAAGTATGGGAAA  
 TGGAGAGGCCAGTACGACGTGGCCATCAAGATGATCAAAGAAGGCTCCATGTCTGAAGATGAATTCATTG  
 AAGAAGCCAAAGTCATGATGAATCTTTCCCATGAGAAGCTGGTGCAGTTGTATGGCGTCTGCACCAAGCA  
 GCGCCCATCTTCATCATCACTGAGTACATGGCCAATGGCTGCCTCCTGAACTACCTGAGGGAGATGCGC  
 CACCGCTTCCAGACTCAGCAGCTGTAGAGATGTGCAAGGATGTCTGTGAAGCCATGGAATACCTGGAGT  
 CAAAGCAGTTCCTTAC

AG**GCGACCG**ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC  
 TGGATTACAAGGATGACGACGA TAAGGTTTAA

**Protein Sequence:**

>RC400948 representing NM\_000061  
 Red=Cloning site Green=Tags(s)

MAAVILESIFLKRSSQKKKTSPLNFKKRLFLLTVHKL SYYEYDFERRRGSKKGSIDVEKITCVETVVP  
 KNPPPERQIPRRGEESSEMEQISIIERFPYPFQVYVDEGPLYVFSPTTEELRKRWIHLKNVIRYNSDLVQ  
 KYHPCFWIDGQYLCCSQTAKNAMGCQILENRNGSLKPGSSHRKTKKPLPPTPEEDQILKKPLPPEPAAAP  
 VSTSELKKVVALYDYMPMNANDLQLRKGDEYF ILEESNLPWWRARDKNGQEGYIPSNYVTEAEDSIEMYE  
 WYSKHMTRSQAELLKQEGKEGGFIVRDSKAGKYTVSVFAKSTGDPQGVIRHYVVCSTPQSYYLAEKH  
 LFSTIPELINYHQHNSAGLISRLKYPVSSQKNAPSTAGLGYGSWEIDPKDLTFLKELGTGQFGVVKYK  
 WRGQYDVAIKMIKEGSMSEDEF IEEAKVMMNLSHEKLVQLYGVCTKQRPIFIITEYMANGCLLNLYLREMR  
 HRFQTQQLLEMCKDVCEAMEYLESKQFLH

**SGP**TRRRLEQKLI**SEEDLAANDILDYKDDDDKV**

**Restriction Sites:**

Sgfl-Mlul

**Cloning Scheme:**

**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](mailto: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 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).

**RefSeq:**

[NP\\_000052](#)

**RefSeq Size:**

1557 bp

**RefSeq ORF:**

1980 bp

**Locus ID:**

695

**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

**MW:** 57.1 kDa

**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]