

## Product datasheet for **RC400908**

### **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:     | K430E                                                                                                                                  |
| Affected Codon#:          | 430                                                                                                                                    |
| Affected NT#:             | 1288                                                                                                                                   |
| Nucleotide Mutation:      | BTK Mutant (K430E), 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:                 | 1977 bp                                                                                                                                |
| Restriction Sites:        | Sgfl-MluI                                                                                                                              |



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**ORF Nucleotide  
Sequence:**

>RC400908 representing NM\_000061  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCCGCAGTGATTCTGGAGAGCATCTTTCTGAAGCGATCCCAACAGAAAAAGAAAACATCACCTCTAA  
 ACTTCAAGAAGCGCCTGTTTCTTTGACCGTGCACAACTCTCCTACTATGAGTATGACTTTGAACGTGG  
 GAGAAGAGGCAGTAAGAAGGGTTCAATAGATGTTGAGAAGATCACTTGTGTTGAAACAGTGGTTCCTGAA  
 AAAAACTCTCCTCCAGAAAGACAGATTCGAGAAGAGGTGAAGAGTCCAGTGAAATGGAGCAAATTTCAA  
 TCATTGAAAGGTTCCCTTATCCCTTCCAGGTTGTATATGATGAAGGGCCTCTCTACGTCTTCTCCCAAC  
 TGAAGAACTAAGGAAGCGGTGGATTACCAGCTCAAAAACGTAATCCGGTACAACAGTGATCTGGTTCAG  
 AAATATCACCTTGCTTCTGGATCGATGGCAGTATCTCTGCTGCTCTCAGACAGCCAAAAATGCTATGG  
 GCTGCCAAATTTTGGAGAACAGGAATGGAAGCTTAAACCTGGGAGTTCTCACCGGAAGACAAAAAGCC  
 TCTTCCCAACGCCTGAGGAGGACCAGATCTTAAAAAGCCACTACCGCTGAGCCAGCAGCAGCACCA  
 GTCTCCACAAGTGAGCTGAAAAAGGTTGTGGCCCTTTATGATTACATGCCAATGAATGCAATGATCTAC  
 AGCTGCGGAAGGGTGATGAATATTTTATCTTGGAGGAAAGCAACTTACCATGGTGAGAGCACGAGATAA  
 AAATGGGCAGGAAGGCTACATTCCTAGTAACTATGCTACTGAAGCAGAAGACTCCATAGAAATGTATGAG  
 TGGTATTCCAAACACATGACTCGGAGTCAGGCTGAGCAACTGCTAAAGCAAGAGGGGAAAGAAGGAGGTT  
 TCATTGTCAGAGACTCCAGCAAAGCTGGCAAATATACAGTGTCTGTGTTTGCTAAATCCACAGGGGACCC  
 TCAAGGGGTGATACGTCATTATGTTGTGTGTTCCACACCTCAGAGCCAGTATTACCTGGCTGAGAAGCAC  
 CTTTTCAGCACCATCCCTGAGCTCATTAACACCATCAGCACAACCTCTGCAGGACTCATATCCAGGCTCA  
 AATATCCAGTGTCTCAACAAAAACAAGAATGCACCTTCCACTGCAGGCCTGGGATACGGATCATGGGAAAT  
 TGATCCAAAGGACCTGACCTTCTTGAAGGAGCTGGGGACTGGACAATTTGGGGTAGTGAAGTATGGGAAA  
 TGGAGAGGCCAGTACGACGTGGCCATCGAGATGATCAAAGAAGGCTCCATGTCTGAAGATGAATTCATTG  
 AAGAAGCCAAAGTCATGATGAATCTTTCCCATGAGAAGCTGGTGCAGTTGTATGGCGTCTGCACCAAGCA  
 GCGCCCCATCTTCATCATCACTGAGTACATGGCCAATGGCTGCCTCCTGAACTACCTGAGGGAGATGCGC  
 CACCGCTTCCAGACTCAGCAGCTGCTAGAGATGTGCAAGGATGTCTGTGAAGCCATGGAATACCTGGAGT  
 CAAAGCAGTTCCTTACCAGAGCTGGCAGCTCGAACTGTTTGGTAAACGATCAAGGAGTTGTTAAAGT  
 ATCTGATTTGCGCCTGTCCAGGTATGTCTGGATGATGAATACACAAGCTCAGTAGGCTCCAAATTTCCA  
 GTCCGGTGGTCCCCACCGAAGTCTGTATAGCAAGTTCAGCAGCAAATCTGACATTTGGGCTTTTG  
 GGGTTTTGATGTGGGAAATTTACTCCCTGGGGAAGATGCCATATGAGAGATTTACTAACAGTGAGACTGC  
 TGAACACATTGCCAAGGCTACGTCTCTACAGGCCTCATCTGGCTTCAGAGAAGGTATATACCATCATG  
 TACAGTTGCTGGCATGAGAAAGCAGATGAGCGTCCCACTTTCAAATCTTCTGAGCAATATTCTAGATG  
 TCATGGATGAAGAATCC

AG**CGGACCG**ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC  
 TGGATTACAAGGATGACGACGA TAAGGTTTAA

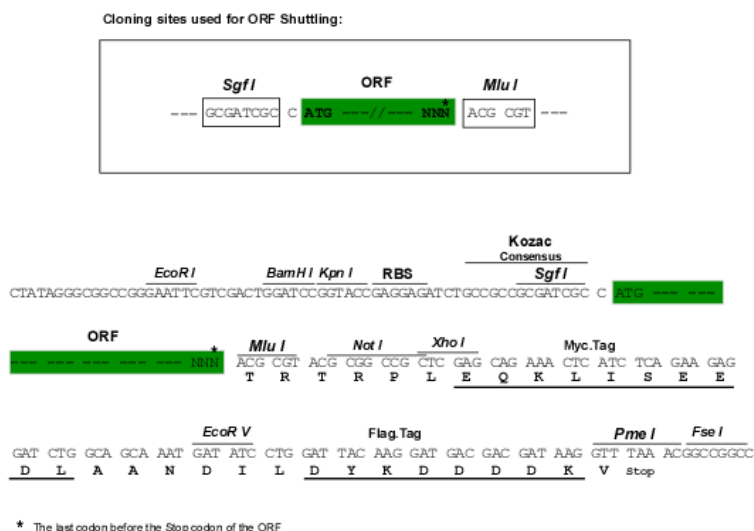
**Protein Sequence:** >RC400908 representing NM\_000061  
 Red=Cloning site Green=Tags(s)

MAAVILESIFLKRSQKKKTSPLNFKKRLFLLVHKLSSYYEYDFERGRGSKKGSIDVEKITCVETVVPE  
KNPPPERQIPRRGEESSEMEQISIIERFPYPFQVVYDEGPLYVFSPTTEELRKRWIHLKNVIRYNSDLVQ  
KYHPCFWDGQYLCCSQTAKNAMGCQILENRNGSLKPGSSHRKTKKLPPTPEEDQILKKPLPPEAAAP  
VSTSELKKVVALYDYPMNANDLQLRKGEYFIEESNLPWWRARDKNGQEGYIPSNYVTEAEDSIEMYE  
WYSKHMTRSQAELKKQEGKEGGFIVRDSKAGKYTVSVFAKSTGDPQGVIRHYVVCSTPQSYYLAEKH  
LFSTIPELINYHQHNSAGLISRLKYPVSSQKNKPNASTAGLGYGSWEIDPKDLTFLKELGTGQFGVVKYGK  
WRGQYDVAIEMIKEGSMSEDEFIEEAKVMNLSHEKLVQLYGVCTKQRPIFIITEYMANGCLLNLYREMR  
HRFQTQQLLEMCKDVCEAMEYLESKQFLHRDLAARNCLVNDQGQVVKVSDFGLSRYVLDDEYTSVSGSKFP  
VRWSPPEVLMYSKFSSKSDIWAFGVLMWEIYSLGKMPYERFTNSETAEHIAQGLRLYRPHLASEKYYTIM  
YSCWHEKADERPTFKILLSNILDVMDDES

SGPTRRRL**EQ**KLISEEDLAANDILDYKDDDDKV

Restriction Sites: Sgfl-MluI

### Cloning Scheme:



|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>OTI Disclaimer:</b>   | <p>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 <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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. <a href="#">More info</a></p> |
| <b>OTI Annotation:</b>   | This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Components:</b>       | 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).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Note:</b>             | Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>RefSeq:</b>           | <a href="#">NP_000052</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>RefSeq Size:</b>      | 1977 bp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>RefSeq ORF:</b>       | 1980 bp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Locus ID:</b>         | 695                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Cytogenetics:</b>     | Xq22.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Domains:</b>          | pkinase, SH2, TyrKc, SH3, BTK, PH, S_TKc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Protein Families:</b> | Druggable Genome, Protein Kinase                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Protein Pathways:</b> | B cell receptor signaling pathway, Fc epsilon RI signaling pathway, Primary immunodeficiency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>MW:</b>               | 72.5 kDa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Gene Summary:</b>     | 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]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |