

## Product datasheet for **MR227147**

### **Hk1 (NM\_010438) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Hk1 (NM_010438) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Hk1
Synonyms:	BB404130; dea; Hk-1; Hk1-s; mHk1-s
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>MR227147 representing NM\_010438  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGGGACAGAACTGCCAGCGAGGACAGGCTGTAGATGTTGAACCAAAAATACGACCCCTCTCACAGAGG  
 AAAAGATTGATAAGTATCTGTATGCCATGCGGCTCTGTATGAAATTCGATAGATATCCTGACACGCTT  
 CAAGAAAGAGATGAAGAATGGCCTCTCCCGGGATTATAACCCAACGCGCTCCGTCAAGATGCTGCCAACC  
 TTTGTCCGGTCCATTCCGGACGGCTCAGAAAAGGGGGATTTTCATTGCACTGGATCTCGGCGGGTCTTCT  
 TTCGAATCCTGCGGGTGCAGGTGAACACGAGAAGAGTCAGAACGTCAGCATGGAGTCTGAGGTCTACGA  
 CACCCAGAGAACATCGTGCACGGCAGTGAAGCCAGCTTTTTGATCACGTCGCTGAATGCCTCGGAGAC  
 TTCATGGAGAAAAGGAAGATCAAGGACAAGAAATTACCCGTGGGATTCACGTTTTCTCCCGTGCCGAC  
 AATCCAAAATAGACGAGGCCGTACTGATCACGTGGACAAAGCGGTTCAAAGCCAGTGGCGTGAAGGGGC  
 GGATGTGGTCAAGCTGCTGAATAAAGCCATTAAGAAGCGAGGGGACTATGACGCTAACATTGTAGCTGTG  
 GTGAATGACACAGTGGGGACCATGATGACTGCGGCTACGATGACCAACAGTGTGAAGTCGGCTGATCA  
 TTGGCACTGGCACCAATGCTTGCTACATGGAGAACTGCGACACATCGACCTGGTGAAGGCGATGAGGG  
 GAGGATGTGTATTAACACGGAATGGGGAGCCTTTGGGGATGATGGGTCCCTGGAAGACATTCGAACAGAG  
 TTTGACAGAGAGTTAGACCGGGGATCCCTCAACCCTGGGAAACAGCTGTTGAGAGAAGATGGTGAGCGGCA  
 TGTACATGGGGGAGCTGGTCCGGCTGATCCTGGTGAAGATGGCCAAGGAAAGCCTTTATTTGAAGGGCG  
 CATTACTCCAGAGCTGCTCACGAGGGGCAAGTTCACCACTAGCGACGTAGCCGCCATTGAAACGGGATGG  
 GAACCTCCCCGTACCCGACGGTGGTACCAGGCATATATGAGGTGCACACAAGACACCCACAGGGATAAGG  
 AAGGCGTTCAAATGCCAAGGAAATCTTGACCCGCTGGGAGTGGAGCCGCTCACGATGACTGCGTATC  
 GGTCCAGCACGTATGCACGATCGTCTCCTCCGATCAGCCAACCTGGTGGCTGCCACGCTCGGTGCCATC  
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 ACAAGATGCACCCACAGTATTCCTCGCGGTTCCACAAGACCCTGAGGCGCCTGGTGCCTGACTCGGACGT  
 CCGGTTCTCTCTCGGAGAGTGGCAGTGGCAAGGGAGCCGCATGGTGACCGCTGTGGCTACCGCCTG  
 GCCGAGCAGCACCGGCAGATTGAGGAAACCCTGTCCACTTCCGCTCAGCAAGCAGGCACTGATGGAGG  
 TGAAGAAGAAGCTGCGGTGAGAGATGGAATGGGGCTGAGAAAGGAGACCAACAGCAGAGCTACGGTCAA  
 AATGCTGCCTTTATGTTGAGAGATCCAGATGGGACTGAGCATGGTACTTCTGGCCTTGATCTC  
 GGAGGAACGAATTTCCGAGTCTACTGGTAAAGATCCGTAGTGGGAAAAAGAGAACAGTGGAGATGCACA  
 ACAAGATCTACTCCATTCCTGAAATCATGCAGGGCACCGGGATGAGCTGTTTGATCACATTGTCTC  
 CTGCATCTCCGACTTCTGGACTACATGGGGATCAAAGGCCCCCGGATGCCTCTGGGCTTCACTTCTCG  
 TTTCCCTGCAAGCAGACGAGCCTAGATTGCGGAATCTTGATCACGTGGACAAAGGGATTCAAAGCCACCG  
 ACTGTGTGGGTACAGATGTAGCCACTTTACTGAGGGATGCTGTAAAAAGGAGAGAGGAATTTGACCTGGA  
 TGTGGTGGCTGTGGTCAACGACACCGTGGGCACCATGATGACTTGTGCTTATGAAGAACCTTCTGTGAG  
 ATTGGACTCATCGTGGGACTGGCAGCAATGCCTGCTACATGGAGGAGATGAAAAACGTGGAGATGGTGG  
 AGGGGAACAGGGCCAGATGTGCATCAATATGGAATGGGTGCCCTTTGGTGACAACCGCTGTCTGGACGA  
 CATCAGAACAGACTTCGACAAAGTGGTGGACGAATATTCTCTAACAGTGGGAAACAAGGTTTGAAGAAG  
 ATGATCAGTGGAAATGACCTGGGTGAGATCGTCCGTAACATCCTGATTGACTTCACCAAGAAAGGCTTCC  
 TCTCCGGGGACAGATCTCTGAGCCACTCAAGACCCGAGGCATCTTCGAGACCAAGTTTCTCTCAGAT  
 CGAGAGTGACCGATTAGCGCTGTCCAGGTGCGGGCCATCCTTCAGCAGCTGGGTCTAACAGCAGCTGC  
 GACGACAGTATCCTGGTCAAGACCGTGTGTGGGTGGTGTCCAAGCGGGCGGCCAGCTGTGTGGTGCCG  
 GCATGGCCCGGTGGTGGAAAAGATCCGAGAGAACAGAGGCTAGACCACCTGAATGTAACCGTGGGCGT  
 GGACGGGACGCTCTACAACTCCATCCACTTCTCCAGAATCATGCACCAACAGTGAAGGAAGTGTCA  
 CCAAAGTGTACCGTGTCTTCTCTGTCTGAAGACGGCAGCGGCAAGGGGGCCGCCCTTATCACAGCTG  
 TGGCGTGGGCTCAGAGGAGACCTACGAACGCC

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >MR227147 representing NM\_010438  
 Red=Cloning site Green=Tags(s)

MGQNCQRGQAVDVEPKIRPPLTEEKIDKYLAMRLSDEILIDILTRFKKEMKNGLSRDYNPTASVKMLPT  
 FVRSIPDGSEKGFIALDLGGSSFRILRVQVNHKSQNVSMSEVYDTPENIVHGSGSQLFDHVAECLGD  
 FMEKRKIKDKKLPVGFTF SFPCRQSKIDEAVLITWTKRFKASGVEGADVVKLLNKAIKKRGDYDANIVAV  
 VNDTVGTMMTCGYDDQCEVGLIIGTGTNACymeELRHIDLVEGDEGRMCINTEWGAFGDDGSLEDIRTE  
 FDRELDRGSLNPGKQLFEKMVSGMYMGELVRLILVKMAKESLLFEGRITPELLTRGKFTTSDVAAIETGW  
 ELSPDRRWYQAYMRCTQDTHRDKEGVQNAKILTRLGVEPSHDDCVSVQHVCITVFSRANLVAATLGA  
 LNRLRDNKGTPrLRRTTVGVGDSLKMHQPYSRRFHKTLRRLVPDSVRFLLSESGSGKAAMVTAVAYRL  
 AEQHRQIEETLSHFRLSKQALMEVKKLRSEMGLRKE TNSRATVKMLPSYVRSIPDGTEHGDFLALDL  
 GGTNFRVLLVKIRSGKKRTVEMHNKIYSIPLEIMQGTGDELFDHIVSCISDFLDYMGIKGPRMPLGFTFS  
 FPCKQTSLDCGILITWTKGFKATDCVGHVATLLRDAVKRREEFDLDDVAVVNDTVGTMMTCAYEEPSCE  
 IGLIVGTGSNACymeEMKNVEMVEGNQGMCMINMEWGAFGDNGCLDDIRDFDKVDEYSLNSGKQRFK  
 MISGMYLGEIVRNILIDFTKKGFLFRGQISEPLKTRGIFETKFLSQIESDRLALLQVRAILQQLGLNSTC  
 DDSILVKTVCVGVSKRAAQLCGAGMAAVVEKIRENRGLDHLNVTVGVDGTLTKLHPHF SRIMHQTVKELS  
 PKCTVSFLLSESGSGKAALITAVGVRLRGDPTNA

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**

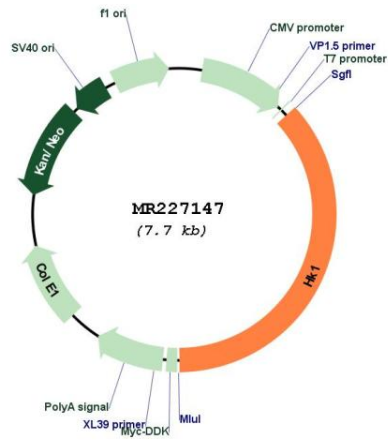


**ACCN:** NM\_010438

**ORF Size:** 2835 bp

<b>OTI Disclaimer:</b>	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>
<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>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_010438.3</a> , <a href="#">NP_034568.2</a>
<b>RefSeq Size:</b>	4100 bp
<b>RefSeq ORF:</b>	2838 bp
<b>Locus ID:</b>	15275
<b>Cytogenetics:</b>	10 32.37 cM
<b>MW:</b>	106 kDa
<b>Gene Summary:</b>	Catalyzes the phosphorylation of various hexoses, such as D-glucose, D-glucosamine, D-fructose, D-mannose and 2-deoxy-D-glucose, to hexose 6-phosphate (D-glucose 6-phosphate, D-glucosamine 6-phosphate, D-fructose 6-phosphate, D-mannose 6-phosphate and 2-deoxy-D-glucose 6-phosphate, respectively). Does not phosphorylate N-acetyl-D-glucosamine (By similarity). Mediates the initial step of glycolysis by catalyzing phosphorylation of D-glucose to D-glucose 6-phosphate (By similarity). Involved in innate immunity and inflammation by acting as a pattern recognition receptor for bacterial peptidoglycan. When released in the cytosol, N-acetyl-D-glucosamine component of bacterial peptidoglycan inhibits the hexokinase activity of HK1 and causes its dissociation from mitochondrial outer membrane, thereby activating the NLRP3 inflammasome (PubMed:27374331).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR227147