

## Product datasheet for **MR209794**

### Hspa5 (NM\_001163434) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Hspa5 (NM_001163434) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Hspa5
Synonyms:	AL022860; AU019543; baffled; Bip; D2Wsu17e; D2Wsu141e; Grp78; Hsce70; mBiP; SEZ-7; Sez7
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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**ORF Nucleotide Sequence:**

>MR209794 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**GCGATCGCC**

ATGATGAAGTTCACTGTGGTGGCGGCGGCTTGTCTGCTGCTGGGCGCGGTGCGGGCCGAGGAGGAGACA  
 AGAAGGAGGATGTGGGCACGGTGGTTCGGCATCGACTTGGGGACCACTATTCTCGCTCGGTGTGTTCAA  
 GAACGGCCCGCTGGAGATCATAGCCAACGATCAGGGCAACCGCATCACGCCGTCGTATGTGGCCTTCACT  
 CCTGAAGGGGAGCGTCTGATTGGCGATGCGGCCAAGAACCAACTCACGTCCAACCCCGAGAACACGGTCT  
 TCGATGCCAAGCGCCTCATCGGACGCACTTGGAAATGACCCTTCGGTGCAGCAGGACATCAAGTCTTGCC  
 ATTCAAGTGGTTGAAAAGAAAATAAACCGTACATTCAAGTTGATATTGGAGGTGGCAAACCAAGACA  
 TTTGCCCCAGAAGAAATTTCTGCCATGGTTCTCACTAAAATGAAGGAGACTGCTGAGGCGTATTTGGGAA  
 AGAAGGTTACCCATGCAGTTGTTACTGTACCAGCTTACTTCAATGATGCCAGCGACAAGCAACCAAGA  
 TGCTGGCACTATTGCTGGACTGAATGTCATGAGGATCATCAATGAGCCTACAGCAGCTGCTATTGCATAT  
 GGCTGGATAAGAGAGAGGGAGAGAAGAATCCTTGTGTTTGACCTGGGTGGCGGCACCTTCGATGTGT  
 CTCTTCTCACCATTGACAATGGTGTCTTTGAAGTGGTGGCCACTAATGGAGATACTCACCTGGGTGGGGA  
 AGACTTTGATCAGCGGTGATGGAACACTTCAAGTTGTACAAAAAGAAAAGTGGTAAAGATGTTAGG  
 AAAGACAACAGAGCTGTGCAGAACTCCGGCGTGAGGTAGAAAAGGCTAAGAGAGCCTTGTCTTCTCAGC  
 ATCAAGCAAGGATTGAAATTTGAGTCCTTCTCGAAGGAGAAGACTTCTCAGAGACCCCTACTCGGGCAA  
 ATTTGAAGAGCTGAACATGGACCTGTCCGCTCTACCAATGAAGCCTGTCCAGAAAGTGTGGAAGACTCT  
 GATCTGAAGAAATCTGATATTGATGAAATTTGTTCTGGTGGTGGATCTACTCGAATTCAAAGATTGAGC  
 AACTGGTGAAGAGTTCTTCAATGGCAAGGAGCCATCCCGTGGCATAAACCCCGATGAGGCTGTAGCCTA  
 TGGTGCCGCTGTCCAGGCTGGTGTCTCTGGTATCAGGATACAGGTGATCTGGTACTGCTTGTGTT  
 TGTCCCTTACACTTGGTATTGAAACTGTGGGAGGAGTCAAGACAAAAGTATTCCAAGGAACACTGTGG  
 TACCCACCAAGAAGTCTCAGATCTTCTCCACGGCTTCCGATAATCAGCCAAGTAAACAATCAAGGTCTA  
 TGAAGGTGAACGACCCCTAACAAAAGACAATCATCTTCTGGGTACATTTGATCTGACTGGAATTCCTCCT  
 GCTCCCGTGGAGTTCAGATTTGAAGTCACTTTTGGATAGATGTTAATGGTATTCTCCGAGTGACAG  
 CTGAAGACAAAGGTACAGGAAACAAAAACAAAATCACAATTACCAATGACCAAAACCGCCTGACACCTGA  
 AGAAATTTGAAAGGATGGTTAATGATGCTGAGAAGTTTCTGAGGAAGACAAAAGCTCAAAGAGCGCATT  
 GACACCAGGAATGAATTGAAAGCTATGCTTATTCTCTCAAGAACCAGATTGGAGATAAAGAAAAGCTGG  
 GAGGTAACCTTTCTTCTGAAGATAAAGAAACCATGGAAAAAGCTGTAGAGGAAAAGATTGAATGGCTGGA  
 AAGCCACCAGGATGCGGACATTGAAGACTTTAAAGCCAAAAAGAAGGAAGTGAAGAAAATTTTCAGCCA  
 ATTATCAGCAAATCTATGGAAGTGGAGGCCCTCCCCAACTGGTGAAGAGGATACATCAGAAAAAGATG  
 AGTTG

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >MR209794 protein sequence  
 Red=Cloning site Green=Tags(s)

MMKFTVVAALLLLGAVRAEEEDKKEDVGTVVGIDLGTTYSCVGVFKNGRVEIANDQGNRITPSYVAFT  
 PEGERLIGDAAKNQLTSPENTVFDARKLIGRTWNPDSVQQDIKFLPFKVVKKTKPYIQVDIGGGQTKT  
 FAPEEISAMVLTKMKETAAYLGKKVTHAVVTPAYFNDAQRQATKDAGTIAGLNMRIINEPTAAAIAY  
 GLDKREGEKNILVFDLGGGTFDVSLTIDNGVFEVVATNGDTHLGGEDFDQRVMEHFIKLYKKKTGKDVR  
 KDNRAVQKLRREVEKAKRALSSQHARIEIESFFEGEDFSETLTRAKEELNMDLFRSTMKPVQKVLEDS  
 DLKKSIDIIVLVGGSTRIPKIQQLVKEFFNGKEPSRGINPDEAVAYGAAVQAGVLSGDQDTGDLVLLDV  
 CPLTLGIETVGGVMTKLIPRNTVVPKKSQIFSTASDNQPTVTIKVYEGERPLTKDNHLLGTFDLTGIPP  
 APRGVPQIEVTFEIDVNGILRVTAEDKGTGNKNKIIITNDQNRLTPEEIERMVNDAEKFAEEDKKLKERI  
 DTRNELESYASLKNQIGDKEKLGKLSSEDKETMEKAVEEKIEWLESHQDADIEDFKAKKKELEEIVQP  
 IISKLYGSGGPPPTGEEDTSEKDEL

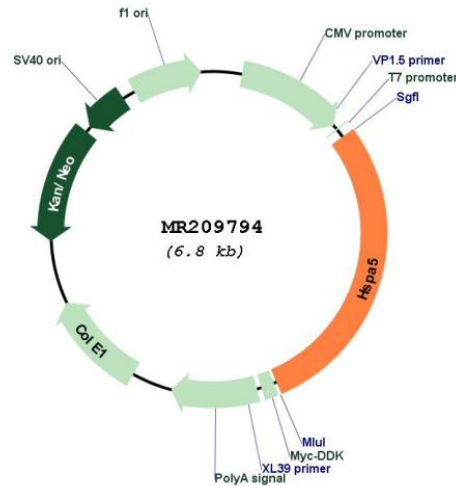
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

SgfI-MluI

Cloning Scheme:



**Plasmid Map:**


**ACCN:** NM\_001163434

**ORF Size:** 1968 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](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).

**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\\_001163434.1](#), [NP\\_001156906.1](#)

**RefSeq Size:** 2534 bp

**RefSeq ORF:** 1968 bp

**Locus ID:** 14828

**UniProt ID:** [P20029](#)

**Cytogenetics:** 2 22.94 cM

**MW:** 72.4 kDa

**Gene Summary:** Endoplasmic reticulum chaperone that plays a key role in protein folding and quality control in the endoplasmic reticulum lumen (PubMed:12411443, PubMed:12475965). Involved in the correct folding of proteins and degradation of misfolded proteins via its interaction with DNAJC10/ERdj5, probably to facilitate the release of DNAJC10/ERdj5 from its substrate (PubMed:12411443). Acts as a key repressor of the ERN1/IRE1-mediated unfolded protein response (UPR) (By similarity). In the unstressed endoplasmic reticulum, recruited by DNAJB9/ERdj4 to the luminal region of ERN1/IRE1, leading to disrupt the dimerization of ERN1/IRE1, thereby inactivating ERN1/IRE1 (By similarity). Accumulation of misfolded protein in the endoplasmic reticulum causes release of HSPA5/BiP from ERN1/IRE1, allowing homodimerization and subsequent activation of ERN1/IRE1 (By similarity). Plays an auxiliary role in post-translational transport of small presecretory proteins across endoplasmic reticulum (ER). May function as an allosteric modulator for SEC61 channel-forming translocon complex, likely cooperating with SEC62 to enable the productive insertion of these precursors into SEC61 channel. Appears to specifically regulate translocation of precursors having inhibitory residues in their mature region that weaken channel gating.[UniProtKB/Swiss-Prot Function]