

Product datasheet for **MG209794**

Hspa5 (NM_022310) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Hspa5 (NM_022310) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Hspa5
Synonyms:	AL022860; AU019543; baffled; Bip; D2Wsu17e; D2Wsu141e; Grp78; Hsce70; mBiP; SEZ-7; Sez7
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG209794 representing NM_022310
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGATGAAGTTCACTGTGGTGGCGGCGGCTTGTCTGCTGCTGGGCGCGGTGCGGGCCGAGGAGGAGACA
 AGAAGGAGGATGTGGCACGGTGGTCGGCATCGACTTGGGGACCACCTATTCTCGCTCGGTGTGTTCAA
 GAACGGCCCGCTGGAGATCATAGCCAACGATCAGGGCAACCGCATCACGCCGTCGTATGTGGCCTTCACT
 CCTGAAGGGGAGCGTCTGATTGGCGATGCGGCCAAGAACCAACTCACGTCCAACCCCGAGAACACGGTCT
 TCGATGCCAAGCGCCTCATCGGACGCACTTGGAAATGACCCTTCGGTGCAGCAGGACATCAAGTCTTGCC
 ATTCAAGTGGTTGAAAAGAAAATAAACCGTACATTCAAGTTGATATTGGAGGTGGCAAACCAAGACA
 TTTGCCCCAGAAGAAATTTCTGCCATGGTTCTCACTAAAATGAAGGAGACTGCTGAGGCGTATTTGGGAA
 AGAAGGTTACCCATGCAGTTGTTACTGTACCAGCTTACTTCAATGATGCCAGCGACAAGCAACCAAGA
 TGCTGGCACTATTGCTGGACTGAATGTCATGAGGATCATCAATGAGCCTACAGCAGCTGCTATTGCATAT
 GGCTGGATAAGAGAGAGGGAGAGAAGAATCCCTTGTGTTTGACCTGGGTGGCGGCACCTTCGATGTGT
 CTCTTCTCACCATTGACAATGGTGTCTTTGAAGTGGTGGCCACTAATGGAGATACTCACCTGGGTGGGGA
 AGACTTTGATCAGCGGTGATGGAACACTTCATCAAGTTGTACAAAAAGAAAAGTGGTAAAGATGTTAGG
 AAAGACAACAGAGCTGTGCAGAACTCCGGCGTGAGGTAGAAAAGGCTAAGAGAGCCTTGTCTTCTCAGC
 ATCAAGCAAGGATTGAAATTTGAGTCCTTCTCGAAGGAGAAGACTTCTCAGAGACCCCTACTCGGGCAA
 ATTTGAAGAGCTGAACATGGACCTGTCCGCTCTACCAATGAAGCCTGTCCAGAAAGTGTGGAAGACTCT
 GATCTGAAGAAATCTGATATTGATGAAATGTTCTGGTTGGTGGATCTACTCGAATTCAAAGATTCAGC
 AACTGGTGAAGAGTTCTCAATGGCAAGGAGCCATCCCGTGGCATAAACCCCGATGAGGCTGTAGCCTA
 TGGTGCCGCTGTCCAGGCTGGTGTCTCTGGTGATCAGGATACAGGTGATCTGGTACTGCTTGTGTT
 TGTCCCTTACACTTGGTATTGAAACTGTGGGAGGAGTCATGACAAAAGTATTCCAAGGAACACTGTGG
 TACCCACCAAGAAGTCTCAGATCTTCTCCACGGCTTCCGATAATCAGCCAAGTAAACAATCAAGGTCTA
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 GCTCCCGTGGAGTTCAGATTTGAAGTCACTTTTGGATAGATGTTAATGGTATTCTCCGAGTGACAG
 CTGAAGACAAAGGTACAGGAAACAAAAACAAAATCACAATTACCAATGACCAAACCGCCTGACACCTGA
 AGAAATTTGAAAGGATGGTTAATGATGCTGAGAAGTTTCTGAGGAAGACAAAAGCTCAAAGAGCGCATT
 GACACCAGGAATGAATTGAAAGCTATGCTTATTCTCTCAAGAACCAGATTGGAGATAAAGAAAAGCTGG
 GAGGTAACCTTTCTTCTGAAGATAAAGAAACCATGGAAAAAGCTGTAGAGGAAAAGATTGAATGGCTGGA
 AAGCCACCAGGATGCGGACATTGAAGACTTTAAAGCCAAAAAGAAGGAAGTGAAGAAAATTTTCAGCCA
 ATTATCAGCAAACCTATGGAAGTGGAGGCCCTCCCCAACTGGTGAAGAGGATACATCAGAAAAAGATG
 AGTTG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >MG209794 representing NM_022310
 Red=Cloning site Green=Tags(s)

MMKFTVVAALLLLGAVRAEEEDKKEDVGTVVGIDLGTTYSCVGVFKNGRVEIANDQGNRITPSYVAF
 PEGERLIGDAAKNQLTSPENTVFDAKRLIGRTWNPDSVQDIKFLPFKVVKKTKPYIQVDIGGGQTKT
 FAPEEISAMVLTKMKETAAYLGGKVTAVVTPAYFNDAQRQATKDAGTIAGLNMRIINEPTAAAIAY
 GLDKREGEKNILVFDLGGGTFDVSLLTIDNGVFEVVATNGDTHLGGEDFDQRMHFYIKLYKKKTGKDVR
 KDNRAVQKLREVEKAKRALSSQHQARIEIESFFEGEDFSETLTRAKEELNMDLFRSTMKPVQKVLDS
 DLKKSIDIIVLVGGSTRIPKIQQLVKEFFNGKEPSRGINPDEAVAYGAAVQAGVLSGDQDTGDLVLLDV
 CPLTLGIETVGGVMTKLIPRNTVVPKKSQIFSTASDNQPTVTIKVYEGERPLTKDNHLLGTFDLTGIPP
 APRGVPQIEVTFEIDVNGILRVTAEDKGTGNKNIITITNDQNRLTPEEIERMVNDAEKFAEEDKKLKERI
 DTRNELESYASLKNQIGDKEKLGKLSSEDKETMEKAVEEKIEWLESHQDADIEDFKAKKKELEEIVQP
 IISKLYGSGGPPPTGEEDTSEKDEL

TRTRPLE - GFP Tag - V

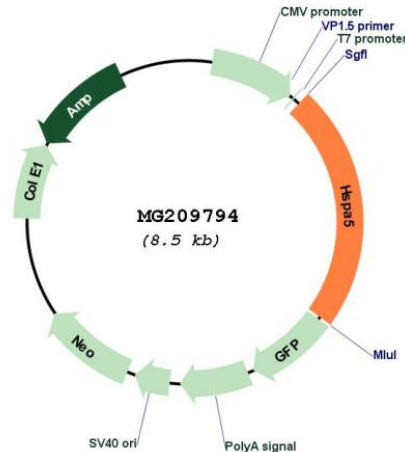
Restriction Sites:

Sgfl-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



Plasmid Map:


ACCN: NM_022310

ORF Size: 2613 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 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_022310.3](#), [NP_071705.3](#)

RefSeq Size: 2539 bp

RefSeq ORF: 1968 bp

Locus ID: 14828

UniProt ID: [P20029](#)

Cytogenetics: 2 22.94 cM

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]