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# Product datasheet for MG209624

## Hspa2 (NM_001002012) Mouse Tagged ORF Clone

### Product data:

| | |
|---|---|
| **Product Type:** | Expression Plasmids |
| **Product Name:** | Hspa2 (NM_001002012) Mouse Tagged ORF Clone |
| **Tag:** | TurboGFP |
| **Symbol:** | Hspa2 |
| **Synonyms:** | 70kDa; Hsp70-2; HSP70.2; HSP70A2 |
| **Mammalian Cell Selection:** | Neomycin |
| **Vector:** | pCMV6-AC-GFP (PS100010) |
| **E. coli Selection:** | Ampicillin (100 ug/mL) |

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**ORF Nucleotide Sequence:**

>MG209624 representing NM_001002012
Red=Cloning site Blue=ORF Green=Tags(s)

GACGTTGTATACGACTCCTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGGCGCGCCC

ATGTCTGCCCGCGGCCCGGCTATCGGCATCGACCTGGGCACCACTTACTCGTGCGTGGGGGTATTCCAAC
ATGGCAAGGTGGAGATCATCGCCAACGACCAGGGTAACCGCACCACCCCCAGCTACGTGGCCTTCACTGA
CACCGAGCGTCTCATCGGCGACGCCGCCAAGAACCAAGTGGCCATGAACCCCACAAACACCATCTTCGAC
GCCAAGCGGCTGATCGGACGGAAGTTCGAGGACGCCACAGTGCAGTCCGATATGAAGCACTGGCCGTTCC
GAGTGGTGAGCGAAGGTGGGAAGCCCAAAGTGCAGGTGGAATATAAAGGGGAGATGAAGACCTTCTTCCC
TGAGGAGATTTCTTCCATGGTCCTCACTAAGATGAAGGAGATCGCCGAAGCCTACCTGGGGGGCAAGGTG
CAGAGCGCAGTCATCACTGTTCCTGCCTATTTCAACGACTCGCAGCGCCAGGCCACCAAGGATGCGGGCA
CCATCACCGGCCTCAACGTGTTGCGCATCATCAATGAGCCCACAGCAGCGGCCATCGCCTACGGCCTGGA
TAAGAAGGGCTGTGCGGGCGGCGAGAAGAACGTGCTCATCTTTGACCTGGGCGGGGGCACCTTCGATGTG
TCCATCCTGACCATCGAGGATGGCATCTTTGAGGTGAAGTCCACGGCCGGCGATACCCACCTGGGTGGCG
AAGACTTCGACAACCGTATGGTCAGCCACCTGGCGGAGGAGTTCAAGCGCAAACACAAGAAGGACATTGG
GCCCAACAAGCGCGCTGTGCGCCGGCTGCGCACCGCCTGCGAGCGCGCTAAGCGCACCCTGAGCTCGTCC
ACGCAGGCCAGCATAGAGATCGACTCGCTCTACGAGGGCGTGGATTTCTACACGTCCATCACCCGCGCCC
GCTTCGAGGAGCTCAACGCCGATCTCTTCCGAGGGACCCTGGAGCCGGTGGAAAAGGCGCTGCGCGATGC
CAAGCTAGACAAGGGCCAGATCCAGGAGATAGTGCTGGTGGGCGGCTCAACCCGCATCCCTAAGATCCAG
AAGCTCCTGCAAGATTTCTTCAACGGCAAGGAGCTGAACAAGAGCATTAATCCCGACGAGGCGGTGGCCT
ACGGCGCCGCTGTGCAGGCGGCTATCCTCATCGGCGACAAGTCGGAAAATGTGCAGGATCTGCTGTTACT
CGACGTGACTCCATTGTCGCTCGGCATCGAAACAGCTGGCGGTGTCATGACCCCACTCATCAAGAGAAAC
ACCACGATCCCCACCAAGCAGACGCAGACCTTCACTACCTACTCAGACAACCAGAGCAGCGTGCTGGTGC
AAGTGTACGAGGGCGAACGGGCCATGACCAAGGACAATAACCTCTTGGGCAAGTTCGACCTGACTGGGAT
CCCCCCAGCACCCCGTGGGGTCCCCCAGATCGAGGTCACCTTTGACATCGATGCCAACGGCATCCTTAAC
GTCACTGCTGCCGACAAGAGCACCGGTAAAGAAAATAAAATCACCATAACCAACGACAAGGGTCGGCTGA
GCAAAGACGACATTGACCGGATGGTGCAGGAGGCGGAGCGGTACAAATCGGAAGATGAAGCAAATCGCGA
TCGCGTGGCAGCCAAAAATGCGGTGGAGTCCTATACCTACAACATCAAGCAGACCGTGGAAGACGAGAAA
CTGAGGGGCAAGATTAGCGAGCAGGACAAAAACAAGATCCTCGACAAGTGTCAGGAGGTGATCAACTGGC
TTGACCGAAACCAGATGGCAGAGAAAGATGAGTACGAACACAAGCAGAAAGAGCTTGAGAGAGTGTGCAA
CCCCATCATCAGCAAACTTTACCAAGGCGGTCCAGGCGGCGGCGGCTCCTCTGGAGGGCCCACCATCGAG
GAAGTGGAC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:**

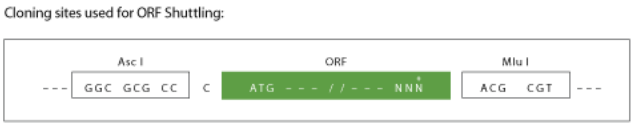
>MG209624 representing NM_001002012
Red=Cloning site Green=Tags(s)

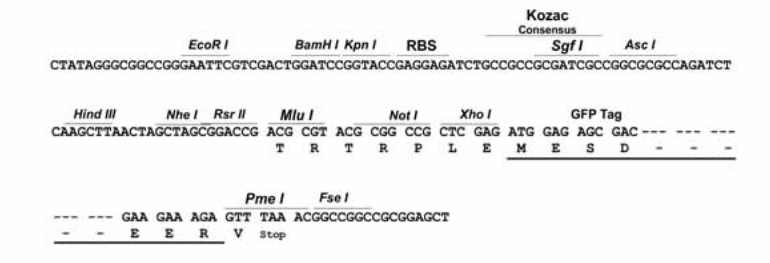
MSARGPAIGIDLGTTYSCVGVFQHGKVEIIANDQGNRTTPSYVAFTDTERLIGDAAKNQVAMNPTNTIFD
AKRLIGRKFEDATVQSDMKHWPFRVVSEGGKPKVQVEYKGEMKTFFPEEISSMVLTKMKEIAEAYLGGKV
QSAVITVPAYFNDSQRQATKDAGTITGLNVLRIINEPTAAAIAYGLDKKGCAGGEKNVLIFDLGGGTFDV
SILTIEDGIFEVKSTAGDTHLGGEDFDNRMVSHLAEEFKRKHKKDIGPNKRAVRRLRTACERAKRTLSSS
TQASIEIDSLYEGVDFYTSITRARFEELNADLFRGTLEPVEKALRDAKLDKGQIQEIVLVGGSTRIPKIQ
KLLQDFFNGKELNKSINPDEAVAYGAAVQAAILIGDKSENVQDLLLLDVTPLSLGIETAGGVMTPLIKRN
TTIPTKQTQTFTTYSDNQSSVLVQVYEGERAMTKDNNLLGKFDLTGIPPAPRGVPQIEVTFDIDANGILN
VTAADKSTGKENKITITNDKGRLSKDDIDRMVQEAERYKSEDEANRDRVAAKNAVESYTYNIKQTVEDEK
LRGKISEQDKNKILDKCQEVINWLDRNQMAEKDEYEHKQKELERVCNPIISKLYQGGPGGGGSSGGPTIE
EVD

TRTRPLE - GFP Tag - V

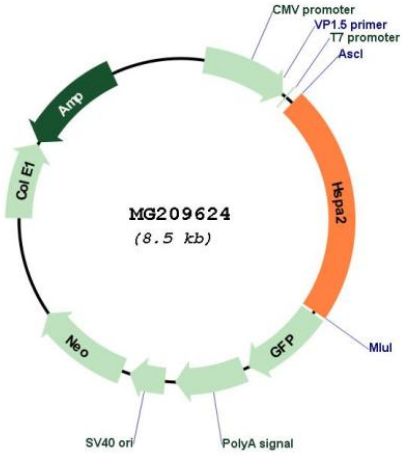
**Restriction Sites:** AscI-MluI

**Cloning Scheme:**




**Plasmid Map:**




**ACCN:** NM_001002012

**ORF Size:** 1899 bp

| | |
|---|---|
| **OTI Disclaimer:** | 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.<br>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.<br>3. Close the tube and incubate for 10 minutes at room temperature.<br>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.<br>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_001002012.1, NP_001002012.1 |
| **RefSeq Size:** | 2550 bp |
| **RefSeq ORF:** | 1902 bp |
| **Locus ID:** | 15512 |
| **UniProt ID:** | P17156 |
| **Cytogenetics:** | 12 33.73 cM |
| **Gene Summary:** | Molecular chaperone implicated in a wide variety of cellular processes, including protection of the proteome from stress, folding and transport of newly synthesized polypeptides, activation of proteolysis of misfolded proteins and the formation and dissociation of protein complexes. Plays a pivotal role in the protein quality control system, ensuring the correct folding of proteins, the re-folding of misfolded proteins and controlling the targeting of proteins for subsequent degradation. This is achieved through cycles of ATP binding, ATP hydrolysis and ADP release, mediated by co-chaperones. The affinity for polypeptides is regulated by its nucleotide bound state. In the ATP-bound form, it has a low affinity for substrate proteins. However, upon hydrolysis of the ATP to ADP, it undergoes a conformational change that increases its affinity for substrate proteins. It goes through repeated cycles of ATP hydrolysis and nucleotide exchange, which permits cycles of substrate binding and release (By similarity). Plays a role in spermatogenesis (PubMed:24557841). In association with SHCBP1L may participate in the maintenance of spindle integrity during meiosis in male germ cells (PubMed:24557841).[UniProtKB/Swiss-Prot Function] |