

Product datasheet for **SC319383**

HSPA2 (NM_021979) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	HSPA2 (NM_021979) Human Untagged Clone
Tag:	Tag Free
Symbol:	HSPA2
Synonyms:	HSP70-2; HSP70-3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC (PS100020)
E. coli Selection:	Ampicillin (100 ug/mL)



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Fully Sequenced ORF: >OriGene sequence for NM_021979.2
 CTCTCTTGCCGTGCCGCGCATGTGCCTTTTCGCTTCTGCCGTGATTGTGAGGCCTCCCCAGC
 CATATGGAAGTTCAAGGATGTCTGCCCGTGGCCCGGCTATCGGCATCGACCTGGGCACCAC
 CTATTCGTGCGTCGGGGTCTTCCAACATGGCAAGTGGAGATCATCGCCAACGACCAGGG
 CAATCGCACCACCCAGCTACGTGGCCTTACGGACACCGAGCGCCTCATCGGCGACGC
 CGCCAAGAACCAGGTGGCCATGAACCCCAACACCATTTCGACGCCAAGAGGCTGAT
 TGGACGGAAATTCGAGGATGCCACAGTGCAGTCGGATATGAAACTGGCCGTTCCGGGT
 GGTGAGCGAGGGAGGCAAGCCAAAGTGAAGTAGAGTACAAGGGGAGACCAAGACCTT
 CTTCCAGAGGAGATATCCTCCATGGTCTCACGAAGATGAAGGAGATCGCGGAAGCCTA
 CCTGGGGGCAAGGTGCACAGCGCGGTCAACGGTCCCGGCTATTTCAACGACTCGCA
 GCGCCAGGCCACCAAGGACGCGACCATCACGGGGCTCAATGTGCTGCGCATCATCAA
 CGAGCCCACGGCGGGCCATCGCTACGGCTGGACAAGAAGGGCTGCGCGGGCGGCGA
 GAAGAACGTGCTCATCTTGACCTGGGCGGTGGCACTTTCGACGTGTCCATCCTGACCAT
 CGAGGATGGCATCTTCGAGGTGAAGTCCACGGCCGGGACACCCACTGGGCGGTGAGGA
 CTTGACAAACCGCATGGTGAAGTCCACGGCCGGGACACCCACTGGGCGGTGAGGA
 CATTGGGCCCAACAAGCGCGCCGTGAGGCGGCTGCGCACCGCTTTCGAGCGCGCCAAGCG
 CACCCTGAGCTCGTCCACGCGAGGCGAGCATCGAGATCGACTCGCTTACGAGGGCGTGA
 CTTCTATACGTCCATCACGCGCGCCGCTTCGAGGAGCTCAATGCCGACCTTTTCGCGG
 GACCCTGGAGCCGGTGGAGAAGGCGCTGCGCGACGCCAAGCTGGACAAGGGCCAGATCCA
 GGAGATCGTGTGGTGGGCGGCTCCACTCGTATCCCAAGATCCAGAAGTGTGCGAGGA
 TTTCTTCAACGGCAAGGAGCTGAACAAGAGCATCAACCCGACGAGGCGGTGGCCTATGG
 CGCCGCGGTGCAGGCGGCCATCCTCATCGGCGACAATCAGAGAATGTGACAGACTGCTG
 GCTACTCGACGTGACCCGTTGTGCTGGCATCGAGACAGCTGGCGGTGTCATGACCCC
 ACTCATCAAGAGGAACACACGATCCCCACCAAGCAGACGACGACCTTACCACCTACTC
 GGACAACCAGAGCAGCGTACTGGTGCAGGTATACGAGGGCGAACGGCCATGACCAGGA
 CAATAACCTGCTGGGCAAGTTCGACCTGACCGGATTCCCCCTGCGCCTCGCGGGGTCCC
 CCAATCGAGGTTACCTTCGACATTGACGCCAATGGCATCCTTAACGTTACCGCCCGGA
 CAAGAGCACCGGTAAGGAAAACAAAATCACCATCACCAATGACAAAGTGTGCTGAGCAA
 GGACGACATTGACCGGATGGTGCAGGAGGCGGAGCGGTACAAATCGGAAGATGAGCGAA
 TCGCGACCGAGTTCGCGGCAAAAACGCCCTGGAGTCTATACCTACAACATCAAGCAGAC
 GGTGGAAGACGAGAACTGAGGGCAAGATTAGCGAGCAGGACAAAACAAGATCCTCGA
 CAAGTGTGAGGAGGTGATCAACTGGCTCGACCGAAACCAGATGGCAGAGAAAGATGAGTA
 TGAACACAAGCAGAAAGAGCTCGAAAGAGTTTGAACCCCATCATCAGCAAACTTTACCA
 AGGTGGTCTGGCGGGCGGACGGCGGGCGGTTGAGGAGCCTCCGGGGGACCCACCAT
 CGAAGAAGTGGACTAAGCTTGCACCTCAAGTCAAGTCAAGTCAAGTCAAGTCAAGTCAAGT
 CTCTTTTTTTTTTTGTTTCTTTGAAATGTCCTTGTGCCAAGTACGAGATCTATTGTTG
 GAAGTCTTTGGTATATGCAATGAAAGGAGAGGTGCAACAACCTAGTTTAATTATAAAG
 TTCCAAAGTTTGTTTTTTAAAAACATTATTCGAGGTTTCTTTAATGCATTTTGCCTGT
 TTGCTGACTTGAGCATTTTTGATTAGTTTGTGATGGAGATTTGTTTGGATGAGAAACC
 TTAAGTTTGCACACCTGTTCTGTAGAAGCTTGGAAACAGTAAAATATATAGGAGCTTAAA
 TTGTTTATTTTTATGTAATACTTTAAAATAAATAAATAAATAAATAAATAAATAAATAA
 GGTATACTTTTTGCAACAAATGCATAAATGCAATGTAAGTAAAGCTGAAATTGATCT
 CAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

Restriction Sites: Please inquire
ACCN: NM_021979

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 TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.

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_021979.2](#), [NP_068814.2](#)

RefSeq Size: 2496 bp

RefSeq ORF: 1920 bp

Locus ID: 3306

UniProt ID: [P54652](#)

Cytogenetics: 14q23.3

Domains: HSP70

Protein Families: Stem cell - Pluripotency

Protein Pathways: Antigen processing and presentation, Endocytosis, MAPK signaling pathway, Spliceosome

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 (PubMed:26865365). Plays a role in spermatogenesis. In association with SHCBP1L may participate in the maintenance of spindle integrity during meiosis in male germ cells (By similarity).[UniProtKB/Swiss-Prot Function]