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Product datasheet for RC200523

HSPA2 (NM_021979) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	HSPA2 (NM_021979) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	HSPA2
Synonyms:	HSP70-2; HSP70-3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

ORF Nucleotide Sequence:

>RC200523 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGTCTGCCCGTGGCCCGGCTATCGGCATCGACCTGGGCACCACCTATTCGTGCGTCGGGGTCTTCCAAC
ATGGCAAGGTGGAGATCATCGCCAACGACCAGGGCAATCGCACCACCCCCAGCTACGTGGCCTTCACGGA
CACCGAGCGCCTCATCGGCGACGCCGCCAAGAACCAGGTGGCCATGAACCCCACCAACACCATCTTCGAC
GCCAAGAGGCTGATTGGACGGAAATTCGAGGATGCCACAGTGCAGTCGGATATGAAACACTGGCCGTTCC
GGGTGGTGAGCGAGGGAGGCAAGCCCAAAGTGCAAGTAGAGTACAAGGGGGAGACCAAGACCTTCTTCCC
AGAGGAGATATCCTCCATGGTCCTCACGAAGATGAAGGAGATCGCGGAAGCCTACCTGGGGGGCAAGGTG
CACAGCGCGGTCATAACGGTCCCGGCCTATTTCAACGACTCGCAGCGCCAGGCCACCAAGGACGCAGGCA
CCATCACGGGGCTCAATGTGCTGCGCATCATCAACGAGCCCACGGCGGCGGCCATCGCCTACGGCCTGGA
CAAGAAGGGCTGCGCGGGCGGCGAGAAGAACGTGCTCATCTTTGACCTGGGCGGTGGCACTTTCGACGTG
TCCATCCTGACCATCGAGGATGGCATCTTCGAGGTGAAGTCCACGGCCGGCGACACCCACCTGGGCGGTG
AGGACTTCGACAACCGCATGGTGAGCCACCTGGCGGAGGAGTTCAAGCGCAAGCACAAGAAGGACATTGG
GCCCAACAAGCGCGCCGTGAGGCGGCTGCGCACCGCTTGCGAGCGCGCCAAGCGCACCCTGAGCTCGTCC
ACGCAGGCGAGCATCGAGATCGACTCGCTCTACGAGGGCGTGGACTTCTATACGTCCATCACGCGCGCCC
GCTTCGAGGAGCTCAATGCCGACCTCTTTCGCGGGACCCTGGAGCCGGTGGAGAAGGCGCTGCGCGACGC
CAAGCTGGACAAGGGCCAGATCCAGGAGATCGTGCTGGTGGGCGGCTCCACTCGTATCCCCAAGATCCAG
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ATGGCGCCGCGGTGCAGGCGGCCATCCTCATCGGCGACAAATCAGAGAATGTGCAGGACCTGCTGCTACT
CGACGTGACCCCGTTGTCGCTGGGCATCGAGACAGCTGGCGGTGTCATGACCCCACTCATCAAGAGGAAC
ACCACGATCCCCACCAAGCAGACGCAGACCTTCACCACCTACTCGGACAACCAGAGCAGCGTACTGGTGC
AGGTATACGAGGGCGAACGGGCCATGACCAAGGACAATAACCTGCTGGGCAAGTTCGACCTGACCGGGAT
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GTTACCGCCGCCGACAAGAGCACCGGTAAGGAAAACAAAATCACCATCACCAATGACAAAGGTCGTCTGA
GCAAGGACGACATTGACCGGATGGTGCAGGAGGCGGAGCGGTACAAATCGGAAGATGAGGCGAATCGCGA
CCGAGTCGCGGCCAAAAACGCCCTGGAGTCCTATACCTACAACATCAAGCAGACGGTGGAAGACGAGAAA
CTGAGGGGCAAGATTAGCGAGCAGGACAAAAACAAGATCCTCGACAAGTGTCAGGAGGTGATCAACTGGC
TCGACCGAAACCAGATGGCAGAGAAAGATGAGTATGAACACAAGCAGAAAGAGCTCGAAAGAGTTTGCAA
CCCCATCATCAGCAAACTTTACCAAGGTGGTCCTGGCGGCGGCAGCGGCGGCGGCGGTTCAGGAGCCTCC
GGGGGACCCACCATCGAAGAAGTGGAC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC200523 protein sequence
Red=Cloning site Green=Tags(s)

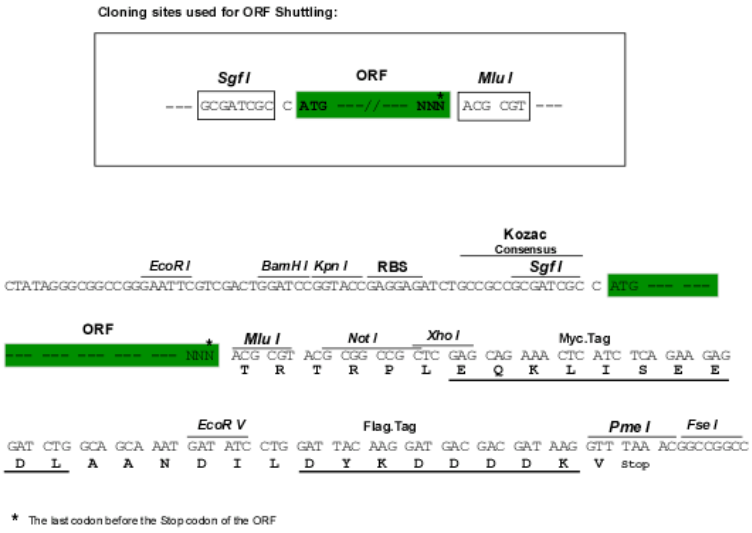
MSARGPAIGIDLGTTYSCVGVFQHGKVEIIANDQGNRTTPSYVAFTDTERLIGDAAKNQVAMNPTNTIFD
AKRLIGRKFEDATVQSDMKHWPFRVVSEGGKPKVQVEYKGETKTFFPEEISSMVLTKMKEIAEAYLGGKV
HSAVITVPAYFNDSQRQATKDAGTITGLNVLRIINEPTAAAIAYGLDKKGCAGGEKNVLIFDLGGGTFDV
SILTIEDGIFEVKSTAGDTHLGGEDFDNRMVSHLAEEFKRKHKKDIGPNKRAVRRLRTACERAKRTLSSS
TQASIEIDSLYEGVDFYTSITRARFEELNADLFRGTLEPVEKALRDAKLDKGQIQEIVLVGGSTRIPKIQ
KLLQDFFNGKELNKSINPDEAVAYGAAVQAAILIGDKSENVQDLLLLDVTPLSLGIETAGGVMTPLIKRN
TTIPTKQTQTFTTYSDNQSSVLVQVYEGERAMTKDNNLLGKFDLTGIPPAPRGVPQIEVTFDIDANGILN
VTAADKSTGKENKITITNDKGRLSKDDIDRMVQEAERYKSEDEANRDRVAAKNALESYTYNIKQTVEDEK
LRGKISEQDKNKILDKCQEVINWLDRNQMAEKDEYEHKQKELERVCNPIISKLYQGGPGGGSGGGGSGAS
GGPTIEEVD

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6149_h04.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



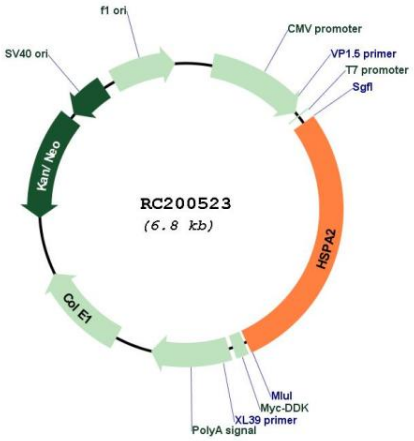
ACCN: NM_021979

ORF Size: 1917 bp

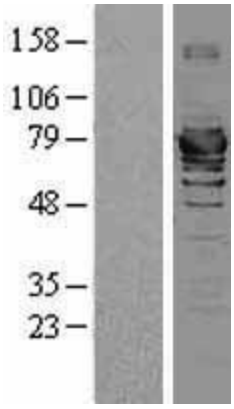
OTI Disclaimer:	Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA 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.
Note:	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
RefSeq:	NM_021979.3
RefSeq Size:	2802 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
MW:	70 kDa

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]

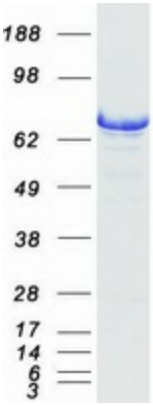
Product images:



Circular map for RC200523



Western blot validation of overexpression lysate (Cat# [LY402898]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC200523 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified HSPA2 protein (Cat# [TP300523]). The protein was produced from HEK293T cells transfected with HSPA2 cDNA clone (Cat# RC200523) using MegaTran 2.0 (Cat# [TT210002]).