

Product datasheet for **RC205859**

GRP78 (HSPA5) (NM_005347) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	GRP78 (HSPA5) (NM_005347) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	GRP78
Synonyms:	BIP; GRP78; HEL-S-89n
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

**ORF Nucleotide
Sequence:**

>RC205859 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGAAGCTCTCCCTGGTGCCGCGATGCTGCTGCTCAGCGCGCGCGGGCCGAGGAGGACAAGA
 AGGAGGACGTGGGCACGGTGGTCGCGATCGACCTGGGGACCACCTACTCCTGCGTCGGCGTGTCAAGAA
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 ATCAGCAAATCTATGGAAGTGCAGGCCCTCCCAACTGGTGAAGAGGATACAGCAGAAAAAGATGAGT
 TG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC205859 protein sequence
Red=Cloning site Green=Tags(s)

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MKLSLVAAMLLLLSAARAEEDKKEDVGTVVGIDLGTTYSCVGVFKNGRVEIIANDQGNRITPSYVAFTP
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APEEISAMVLTMKMETAEAYLGKKVTHAVVTPAYFNDAQRQATKDAGTIAGLNMRIINEPTAAAIAYG
LDKREGEKNILVFDLGGGTFDVSLLTIDNGVFEVVATNGDTHLGGEDFDQRVMEHF IKLYKKTKGKDV RK
DNRAVQKLRREVEKAKRALSSQHARIEIESFYEGEDFSETL TRAKFEELNMDLFRSTMKPVQKVL EDS
LKKSDIDEIVLVGGSTRIPKIQQLVKEFFNGKEPSRGINPDEAVAYGAAVQAGVLSGDQDTGDLVLLDVC
PLTLGIETVGGVMTKLIPRNTVVPTKKSQIFSTASDNQPTVTIKVYEGERPLTKDNHLLGTGFDLTGIPPA
PRGVPQIEVTFEIDVNGILRVTAEDKGTGNKNKITITNDQNRLTPEEIERMVNDAEKFAEEDKKKERID
TRNELESYAYSLKNQIGDKEKLGKLSSEDKETMEKAVEEKIEWLESHQDADIEDFKAKKKELEEIVQPI
ISKLYGSAGPPPTGEEDTAEKDEL
    
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TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6672_a12.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_005347

ORF Size: 1962 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.
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_005347.5](#)

RefSeq Size: 3973 bp

RefSeq ORF: 1965 bp

Locus ID: 3309

UniProt ID: [P11021](#)

Cytogenetics: 9q33.3

Domains: HSP70

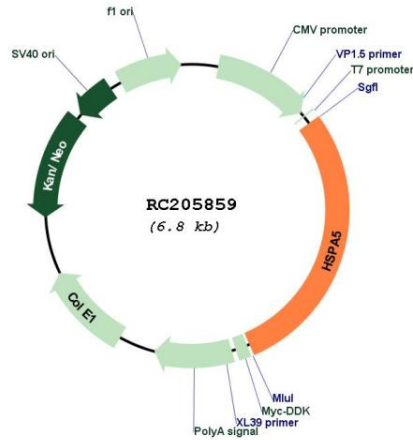
Protein Families: Druggable Genome

Protein Pathways: Antigen processing and presentation, Prion diseases

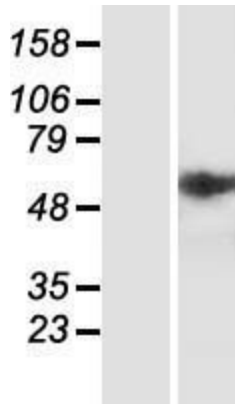
MW: 72.3 kDa

Gene Summary: The protein encoded by this gene is a member of the heat shock protein 70 (HSP70) family. This protein localizes to the lumen of the endoplasmic reticulum (ER) where it operates as a typical HSP70 chaperone involved in the folding and assembly of proteins in the ER and is a master regulator of ER homeostasis. During cellular stress, as during viral infection or tumorigenesis, this protein interacts with the transmembrane stress sensor proteins PERK (protein kinase R-like endoplasmic reticulum kinase), IRE1 (inositol-requiring kinase 1), and ATF6 (activating transcription factor 6) where it acts as a repressor of the unfolded protein response (UPR) and also plays a role in cellular apoptosis and senescence. Elevated expression and atypical translocation of this protein to the cell surface has been reported in viral infections and some types of cancer cells. At the cell surface this protein may facilitate viral attachment and entry to host cells. This gene is a therapeutic target for the treatment of coronavirus diseases and chemoresistant cancers. [provided by RefSeq, Jul 2020]

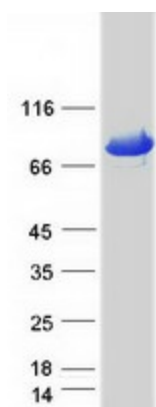
Product images:



Circular map for RC205859



Western blot validation of overexpression lysate (Cat# [LY417364]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC205859 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified HSPA5 protein (Cat# [TP305859]). The protein was produced from HEK293T cells transfected with HSPA5 cDNA clone (Cat# RC205859) using MegaTran 2.0 (Cat# [TT210002]).