

## Product datasheet for **RC215023**

### IRE1 (ERN1) (NM\_001433) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	IRE1 (ERN1) (NM_001433) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	IRE1
Synonyms:	hIRE1p; IRE1; IRE1a; IRE1P
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

**ORF Nucleotide Sequence:**

>RC215023 representing NM\_001433  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGCCGGCCCGGGGCTGCTGCTGCTGCTGACGCTGCTGCTGCCGGCCTCGGGATTTTGGAAGTACCA  
 GCACAGTGACGCTTCTGAAACCTTGTGTTTGTGTCAACGCTGGATGGAAGTTTGCATGCTGTCAGCAA  
 GAGGACAGGCTCAATCAATGGACTTTAAAAGAAGATCCAGTCCCTGCAGGTCCCAACACATGTGGAAGAG  
 CCTGCCTTTCTCCAGATCCTAATGATGGCAGCCTGTATACGCTTGAAGCAAGAATAATGAAGGCCTGA  
 CGAAACTTCTTTTACCATCCCAGAATTGGTGCAGGCATCCCATGCCGAAGTTCAGATGGAATCCTCTA  
 CATGGGTAAAAAGCAGGACATCTGGTATGTTATTGACCTCTGACCGGAGAGAAGCAGCAGACTTTGTCA  
 TCGGCCTTTGAGATAGTCTCTGCCATCAACCTCTCTTCTGTATCTTGGGCGAACAGAATACACCATCA  
 CCATGTACGACACAAAACCCGAGAGCTCCGGTGAATGCCACCTACTTTGACTATGCGGCCTCACTGCC  
 TGAGGACGACGTGGACTACAAGATGTCCACTTTGTGTCCAATGGTGTGGGCTGGTGGTACTGTGGAC  
 AGTGAATCTGGGACGTCCTATGGATCCAAAACACTACGCCTCCCTGTGGTGGCCTTTTATGTCTGGCAGC  
 GGGAGGCTCTGAGGAAGGTGATGCACATCAATGTCGCTGTGGAGACCCTGCGCTATCTGACCTTCATGTC  
 TGGGGAGGTGGGGCGCATCACAAGTGGAAGTACCCGTTCCCAAGGAGACAGAGGCCAAGAGCAAGCTG  
 ACGCCCACTCTGTATGTTGGGAAATACTCTACCAGCCTCTATGCCTCTCCCTCAATGGTACACGAGGGGG  
 TTGCTGTGCTGCCCGCGGCAGCACACTTCTTTGCTGGAAGGGCCCCAGACTGATGGCGTCAACATCGG  
 GGACAAGGGGGAGTGTGTGATCACGCCCAGCACGGAGCTCAAGTTTGTATCCCGGACTCAAAGCAAGAAC  
 AAGCTCAACTACTTGAGGAATTACTGGCTTCTGATAGGACACCATGAAACCCCACTGTCTGCGTCTACCA  
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 AAAGAGCTTTGAGGAAGTTATCAACCTGGTTGACCAGACTTCAGAAAACGCACCTACCACCGTGTCTCGG  
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 CATGCATCAGCAGCAGCAGCTCCAGCACAGCAGTTCCAGAAGGAACTGGAGAAGATCCAGCTCCTGCAG  
 CAGCAGCAGCAGCAGCTGCCCTCCACCCACTGGAGACACGGCTCAGGACGGGAGCTCCTGGACACGT  
 CTGGCCGTACTCAGAGAGCTCGGGACCAGCAGCCCAGCACGTCCCCAGGGCCTCAACCCTCGCT  
 CTGCTCCGGCAGCTCTGCCTCAAGGCTGGCAGCAGCCCTCCCTGGAACAAGACGATGGAGATGAGGAA  
 ACCAGCGTGGTGTAGTTGGGAAAAATTTCTTCTGTCCCAAGGATGTCTGGGCCATGGAGCTGAGGGCA  
 CAATTGTGTACCGGGCATGTTTGACAACCGCAGCTGGCCGTGAAGAGGATCCTCCCGAGTGTTTTATG  
 CTTGCGAGACCGTGGAGTCCAGCTGTTGCGAGAATCGGATGAGCACCCGAACGTGATCCGCTACTTCTGC  
 ACGGAGAAGGACCGCAATTCCAGTACATTGCCATCGAGCTGTGTGCAGCCACCCTGCAAGAGTATGTGG  
 AGCAGAAGGACTTTGCGCATCTCGGCCTGGAGCCCATCACCTGTGTCAGCAGACCACCTCGGGCCTGGC  
 CCACCTCCACTCCCTCAACATCGTTACAGAGACCTAAAGCCACACAACATCCTCATATCCATGCCCAAT  
 GCACACGGCAAGATCAAGGCCATGATCTCCGACTTTGGCCTCTGCAAGAAGCTGGCAGTGGGAGACACA  
 GTTTCAGCCGCCGATCTGGGGTGCCTGGCACAGAAGGCTGGATCGCTCCAGAGATGCTGAGCGAAGACTG  
 TAAGGAGAACCCTACCTACACGGTGGACATCTTTTCTGCAGGCTGCGTCTTTTACTACGTAATCTCTGAG  
 GGCAGCCACCCTTTGGCAAGTCCCTGCAGCGGCAAGCCAACATCCTCCTGGGTGCCTGCAGCCTTGACT  
 GCTTGCACCCAGAGAAGCACGAAGACGTCATTGCACGTGAATTGATAGAGAAGATGATTGCGATGGATCC  
 TCAGAAACGCCCTCAGCGAAGCACGTGCTCAAACACCCGTTCTTCTGGAGCCTAGAGAAGCAGCTCCAG  
 TTCTTCCAGGACGTGAGCGACAGAATAGAAAAGGAATCCCTGGATGGCCCGATCGTGAAGCAGTTAGAGA  
 GAGGGGGAGAGCCGTGGTGAAGATGGACTGGCGGGAGAACATCACTGTCCCCCTCCAGACAGACCTGCG  
 TAAATTCAGGACCTATAAAGGTGGTCTGTGAGAGATCTCCTCCGAGCCATGAGAAATAAGAAGCACCCAC  
 TACCGGGAGCTGCCTGCAGAGGTGCGGGAGACGCTGGGGTCCCTCCCGACGACTTCGTGTGCTACTTCA  
 CATCTCGTTCACCCACCTCCTGCACACACCTACCGGGCATGGAGCTGTGCAGCCACGAGAGACTCTT  
 CCAGCCCTACTACTTCCACGAGCCCCAGAGCCCCAGCCCCAGTACTCCAGACGCCCTC

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC215023 representing NM\_001433  
 Red=Cloning site Green=Tags(s)

MPARRLLLLLLTLLLPLGLGIFGSTSTVTLPETLLFVSTLDGSLHAVSKRTGSIKWLKEDPVLQVPTHVEE  
 PAFLPDPNDGSLYTLGSKNNEGLTKLPFTIPELVQASPCRSDGILYMGKKQDIWYVIDLLTGEKQQTLS  
 SAFADSLCPSTSLLYLGRTEYITIMYDTRTLRWNATYFDYAASLPEDDVYKMSHFVSNQDGLVVTVD  
 SESGDVLWIQNYASPVVAFYVWQREGLRKMVHINVAVETLRYLTFMSEGEVGRITKWYFPFKETEAKSKL  
 TPTLYVYGKYSTSLYASPSMVHEGVAVVPRGSTLPLEGPQTDGVTIGDKGECVITPSTDVKFDPGLKSKN  
 KLNLYLRNYWLLIGHHETPLSASTKMLERFPNNLPKHRENVIPADSEKKSFEVINLVQDTSENAPTTVSR  
 DVEEKPAHAPARPEAPVDSMLKDMATIILSTFLLIGWVAFIITYPLSMHQQQQLQHQQFQKELEKIQLLQ  
 QQQQQLPFHPPGDTAQDGELLDTSGPYSESSGTSSPSTSPRASNHSLCSGSSASKAGSSPSLEQDDGDEE  
 TSVVIVGKISFCPKDVLGHGAEGTIVYRGMFDNRDVAVKRILPECFSFADREVQLLRESDEHPNVIRYFC  
 TEKDRQFYIAIELCAATLQEYVEQKDF AHLGLEPITLLQQTSSGLAHLHSLNIVHRDLKPHNILISMPN  
 AHGKIKAMISDFGLCKKLAVGRHSFSRRSGVPGTEGWIAPEMLSEDCKENPTYTVDIFSAGCVFYVYISE  
 GSHPFGKSLQRQANILLGACSLDCLHPEKHEDVIARELIEKMIAMPQKRPSAKHVLKHPFFWSLEKQLQ  
 FFQDVSDRIEKESLDGPIVKQLERGGRAVVKMDWRENITVPLQTLRKFRTYKGSVVRDLLRAMRNKKHH  
 YRELPAEVRETLGSLPDDFVCYFTSRFPHELLAHTYRAMELCSHERLFQPYFHEPPEPQPPVTPDAL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_001433

**ORF Size:** 2931 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](mailto: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\\_001433.5](#)

**RefSeq Size:** 3620 bp

**RefSeq ORF:** 2934 bp

**Locus ID:** 2081

**UniProt ID:** [O75460](#)

**Cytogenetics:** 17q23.3

**Domains:** pkinase, TyrKc, S\_TKc, PQQ, PUG

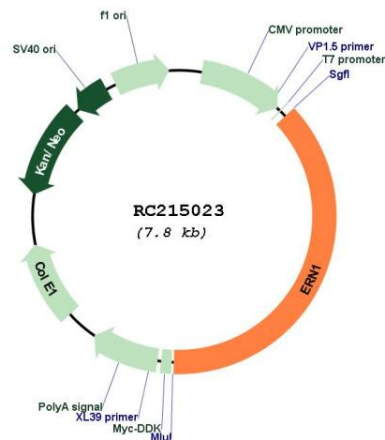
**Protein Families:** Protein Kinase, Transmembrane

**Protein Pathways:** Alzheimer's disease

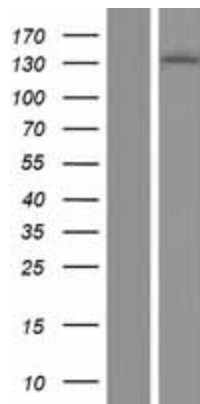
**MW:** 109.6 kDa

**Gene Summary:**

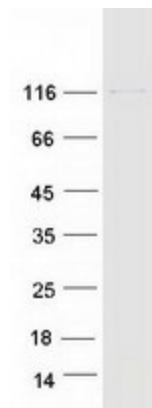
This gene encodes the transmembrane protein kinase inositol-requiring enzyme 1. The encoded protein contains two functional catalytic domains, a serine/threonine-protein kinase domain and an endoribonuclease domain. This protein functions as a sensor of unfolded proteins in the endoplasmic reticulum (ER) and triggers an intracellular signaling pathway termed the unfolded protein response (UPR). The UPR is an ER stress response that is conserved from yeast to mammals and activates genes involved in degrading misfolded proteins, regulating protein synthesis and activating molecular chaperones. This protein specifically mediates the splicing and activation of the stress response transcription factor X-box binding protein 1. [provided by RefSeq, Aug 2017]

**Product images:**


Circular map for RC215023



Western blot validation of overexpression lysate (Cat# [LY419940]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC215023 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified ERN1 protein (Cat# [TP315023]). The protein was produced from HEK293T cells transfected with ERN1 cDNA clone (Cat# RC215023) using MegaTran 2.0 (Cat# [TT210002]).