

## Product datasheet for **RC400319**

### EGFR (NM\_005228) Human Mutant ORF Clone

#### Product data:

Product Type:	Mutant ORF Clones
Product Name:	EGFR (NM_005228) Human Mutant ORF Clone
Mutation Description:	D770_N771insG
Affected Codon#:	770
Affected NT#:	c.2310_2311
Nucleotide Mutation:	EGFR Mutant (D770_N771insG), Myc-DDK-tagged ORF clone of Homo sapiens epidermal growth factor receptor (EGFR), transcript variant 1 as transfection-ready DNA
Effect:	Insertion
Symbol:	EGFR
Synonyms:	ERBB; ERBB1; ERRP; HER1; mENA; NISBD2; PIG61
E. coli Selection:	Kanamycin (25 ug/mL)
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
Tag:	Myc-DDK
ACCN:	NM_005228
ORF Size:	3633 bp
Restriction Sites:	SgfI-MluI
ORF Nucleotide Sequence:	>RC400319 representing NM_005228 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**GCGATCGCC**

ATGCGACCCTCCGGGACGGCCGGGCAGCGCTCCTGGCGTCTGGCTGCGCTCTGCCCGCGAGTCGGG  
CTCTGGAGGAAAAGAAAGTTTGCCAAGGCACGAGTAACAAGCTCACGCAGTTGGGCACCTTTGAAGATCA  
TTTTCTCAGCCTCAGAGGATGTTCAATAACTGTGAGGTGGTCTTGGGAATTTGGAAATTACCTATGTG  
CAGAGGAATTATGATCTTTCCTTCTAAAGACCATCCAGGAGGTGGCTGGTTATGTCTCATTGCCCTCA  
ACACAGTGGAGCGAATTCCTTTGGAAAACCTGCAGATCATCAGAGGAAATATGTACTACGAAAATTCCTA  
TGCCTTAGCAGTCTTATCTAACTATGATGCAAAATAAACCGGACTGAAGGAGCTGCCCATGAGAAATTTA  
CAGGAAATCCTGCATGGCGCCGTGCGGTTCCAGCAACAACCTGCCCTGTGCAACGTGGAGAGCATCCAGT



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GGCGGGACATAGTCAGCAGTGACTTTCTCAGCAACATGTCGATGGACTTCCAGAACCACCTGGGCAGCTG  
CCAAAAGTGTGATCCAAGCTGTCCCAATGGGAGCTGCTGGGGTGCAGGAGAGGAGAACTGCCAGAACTG  
ACCAAAATCATCTGTGCCAGCAGTGCTCCGGGCGCTGCCGTGGCAAGTCCCCAGTGACTGTGCCACA  
ACCAGTGTGCTGCAGGCTGCACAGGCCCCCGGGAGAGCGACTGCCTGGTCTGCCGCAAAATCCGAGACGA  
AGCCACGTGCAAGGACACCTGCCCCCACTCATGTCTACAACCCACCACGTACCAGATGGATGTGAAC  
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CAGCTGCGGAGGCTGCTGCAGGAGAGGGAGCTTGTGGAGCCTTACACCCAGTGGAGAAGCTCCCAAC  
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AAGAGAAGCAACATCTCCGAAAGCCAACAAGGAAATCCTCGATGAAGCCTACGTGATGGCCAGCGTGGAG  
GTCAACCCCCACGTGTGCCGCTGCTGGGCATCTGCCTCACCTCCACCGTGCAGCTCATCACGCAGCTCA  
TGCCCTTCGGTGCCTCCTGGACTATGTCGGGAACACAAGACAATATTGGCTCCAGTACCTGCTCAA  
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CCCCTCCACGTACGGACTCCCCTCTGAGCTCTGTAGTGAACCCAGCAACAATCCACCGTGGCTTGC  
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CGTTCCAAAAGGCCCGCTGGCTCTGTGCGAATCCTGTCTATACAATCAGCCTCTGAACCCCGCGCCC  
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CCTGGACAACCCTGACTACCAGCAGGACTTCTTCCAAAGGAAGCAAGCCAAATGGCATCTTTAAGGGC  
TCCACAGCTGAAAATGCAGAATACCTAAGGGTCCGCCCAAAGCAGTGAATTTATTGGAGCA

ACGCGTACGCGGCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC400319 representing NM\_005228  
 Red=Cloning site Green=Tags(s)

MRPSGTAGAALLALLAALCPASRALEEKKVCQGTSNKLTQLGTFEDHFLSLQRMFNCEVVLGNLEITYY  
 QRNYDL SFLKTIQEVAGYVLIALNTVERIPL ENLQIIRGNMYE NSYALAVLSNYDANKTGLKELPMRNL  
 QEILHGAVRFSNNPALCNVESIQWRDIVSSDFLSNM SMDFQNH LGSCQKCDPSCPNGSCWGAGEENCQKL  
 TKIICAQQCSGRCRGKSPSDCCHNQCAAGCTGPRES DCLVCRKFRDEATCKDTC PPLMLYNPTTYQMDVN  
 PEGKYSFGATCVKKCP RNYVVDH GSCVRACGADSYEMEEDGVRKCKKCEGPCRKVCNGIGIGEFKDSLS  
 INATNIKHFKNCTISGDLHILPVAFRGDSFHTHTPPLDPQELDILKTVKEITGFLLIQAWPENRTDLHAF  
 ENLEIIRGR TKQHGFSLAVVSLNITSLGLRSLKEISDGDV IISGNKNLCYANTINWKKLFGTSGQKTKI  
 ISNRGENSCKATGQVCHALCSPEGCWGP EPRDCVSCRNVSRGECVDKCNLLEGEPPREFVENSECIQCHP  
 ECLPQAMNITCTGRGPDNCIQCAHYIDGPHCVKTC PAVGMGENNTLVWKYADAGHVCHLCHPNCTYGCTG  
 PGLGECPTNGPKIPSIATGMV GALLLLLVVALGIGLFMR RHHIVRKRTLRRLLQERELVEPLTPSGEAPN  
 QALLRILKETEFKKIKVLGSGAFGTVYKGLWIP EGEKVKIPVAIKELREATSPKANKEILDEAYVMASVE  
 VNP HVCRLLGICLTSTVQLITQLMPFGCLLDYVREHKDNI GSQYLLNWCVQIAKGMNYLED RRLVHRDLA  
 ARNVLVKTPQHVKITDFGLAKLLGAE EKEYHAEGGKVP IKWMALESILHRIYTHQSDVWSYGVTVWELMT  
 FGSKPYDGIPASEISSILEKGERLPQPPICTIDVY MIMVKCWMIDADSRPKFRELII EFSKMARDPQRYL  
 VIQGDERMHLPSPTDSNFYRALMDEEDMDVVD ADEYLIPQQGFFSSPSTSRTPLLSLATSNNSTVAC  
 IDRNLQSCPIKEDSFLQRYSSDPTGALTEDSIDDT FLVPEYINQSVPKRPA GSVQNPVYHNQPLNPAP  
 SRDPHYQDPHSTAVGNPEYLN TVQPTCVNSTFD SPAHWAQKGS HQISLDNPDYQQDFFPKEAKPNGIFKG  
 STAENAEYLRVAPQSSEFIGA

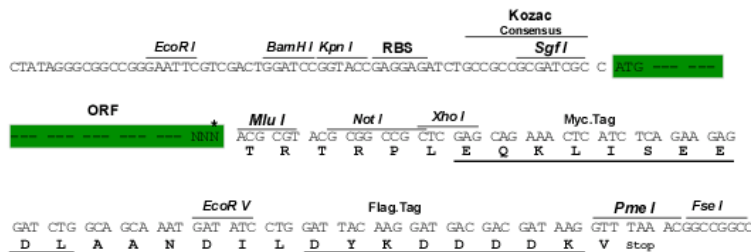
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

<b>OTI Disclaimer:</b>	<p>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 <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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. <a href="#">More info</a></p>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>Note:</b>	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
<b>RefSeq:</b>	<a href="#">NP_005219</a>
<b>RefSeq Size:</b>	5616 bp
<b>RefSeq ORF:</b>	3633 bp
<b>Locus ID:</b>	1956
<b>Cytogenetics:</b>	7p11.2
<b>Domains:</b>	Recep_L_domain, pkinase, TyrKc, S_TKc, Furin-like, FU
<b>Protein Families:</b>	Adult stem cells, Cancer stem cells, Druggable Genome, ES Cell Differentiation/IPS, Protein Kinase, Secreted Protein, Stem cell relevant signaling - JAK/STAT signaling pathway, Transmembrane
<b>Protein Pathways:</b>	Adherens junction, Bladder cancer, Calcium signaling pathway, Colorectal cancer, Cytokine-cytokine receptor interaction, Dorso-ventral axis formation, Endocytosis, Endometrial cancer, Epithelial cell signaling in Helicobacter pylori infection, ErbB signaling pathway, Focal adhesion, Gap junction, Glioma, GnRH signaling pathway, MAPK signaling pathway, Melanoma, Non-small cell lung cancer, Pancreatic cancer, Pathways in cancer, Prostate cancer, Regulation of actin cytoskeleton
<b>MW:</b>	134 kDa

**Gene Summary:**

The protein encoded by this gene is a transmembrane glycoprotein that is a member of the protein kinase superfamily. This protein is a receptor for members of the epidermal growth factor family. EGFR is a cell surface protein that binds to epidermal growth factor, thus inducing receptor dimerization and tyrosine autophosphorylation leading to cell proliferation. Mutations in this gene are associated with lung cancer. EGFR is a component of the cytokine storm which contributes to a severe form of Coronavirus Disease 2019 (COVID-19) resulting from infection with severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2). [provided by RefSeq, Jul 2020]