

## Product datasheet for **RC400104**

### **KRAS (NM\_004985) Human Mutant ORF Clone**

#### **Product data:**

<b>Product Type:</b>	Mutant ORF Clones
<b>Product Name:</b>	KRAS (NM_004985) Human Mutant ORF Clone
<b>Mutation Description:</b>	G12D
<b>Affected Codon#:</b>	12
<b>Affected NT#:</b>	c.35
<b>Nucleotide Mutation:</b>	KRAS mutant (G12D), Myc-DDK-tagged ORF clone of Homo sapiens v-Ki-ras2 Kirsten rat sarcoma viral oncogene homolog (KRAS), transcript variant b as transfection-ready DNA
<b>Effect:</b>	Missense
<b>Symbol:</b>	KRAS
<b>Synonyms:</b>	C-K-RAS; c-Ki-ras2; CFC2; K-Ras; K-RAS2A; K-RAS2B; K-RAS4A; K-RAS4B; KI-RAS; KRAS1; KRAS2; NS; NS3; RALD; RASK2
<b>E. coli Selection:</b>	Kanamycin (25 ug/mL)
<b>Mammalian Cell Selection:</b>	Neomycin
<b>Vector:</b>	pCMV6-Entry (PS100001)
<b>Tag:</b>	Myc-DDK
<b>ACCN:</b>	NM_004985
<b>ORF Size:</b>	564 bp
<b>Restriction Sites:</b>	Sgfl-Mlul



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**ORF Nucleotide Sequence:**

>RC400104 representing NM\_004985  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**GCGATCGCC**

ATGACTGAATATAAACTTGTGGTAGTTGGAGCTGATGGCGTAGGCAAGAGTGCCTTGACGATACAGCTAA  
 TTCAGAATCATTTTGTGGACGAATATGATCCAACAATAGAGGATTCTACAGGAAGCAAGTAGTAATTGA  
 TGGAGAAACCTGTCTCTTGGATATTCTCGACACAGCAGGTCAAGAGGAGTACAGTGAATGAGGGACCAG  
 TACATGAGGACTGGGGAGGGCTTTCTTTGTGTATTTGCCATAAATAACTAAATCATTTGAAGATATTC  
 ACCATTATAGAGAACAAATTAAGAGTTAAGGACTCTGAAGATGTACCTATGGTCTAGTAGGAAATAA  
 ATGTGATTTGCCTTCTAGAACAGTAGACACAAAACAGGCTCAGGACTTAGCAAGAAGTTATGGAATTCCT  
 TTTATTGAAACATCAGCAAAGACAAGACAGGTGTTGATGATGCCTTCTATACATTAGTTCGAGAAATTC  
 GAAAACATAAAGAAAAGATGAGCAAAGATGGTAAAAAGAAGAAAAGAAGTCAAAGACAAAGTGTGTAAT  
 TATG

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC400104 representing NM\_004985  
 Red=Cloning site Green=Tags(s)

MTEYKLVVVGADGVGKSALTIQLIQNHFVDEYDPTIEDSYRKQVVIDGETCLLDILDAGQEEYSAMRDQ  
 YMRTGEGFLCVFAINNTKSFEDIHHYREQIKRVKDSSEVPMVLVGNKCDLPSRTVDTKQAQDLARSYGIP  
 FIETSAKTRQGVDDAFYTLVREIRKHKEKMSKDGKKKKKSKTKCVIM

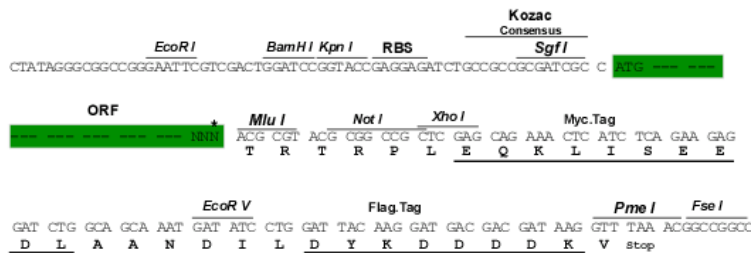
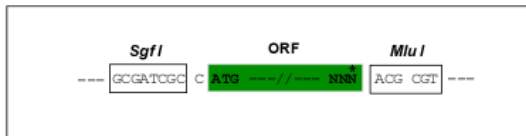
**TRTRP**LEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shutting:



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

<b>OTI Disclaimer:</b>	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>
<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>RefSeq:</b>	<a href="#">NP_004976</a>
<b>RefSeq Size:</b>	5312 bp
<b>RefSeq ORF:</b>	567 bp
<b>Locus ID:</b>	3845
<b>Cytogenetics:</b>	12p12.1
<b>Domains:</b>	ras, RAS, RHO, RAB
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Acute myeloid leukemia, Axon guidance, B cell receptor signaling pathway, Bladder cancer, Chemokine signaling pathway, Chronic myeloid leukemia, Colorectal cancer, Dorso-ventral axis formation, Endometrial cancer, ErbB signaling pathway, Fc epsilon RI signaling pathway, Gap junction, Glioma, GnRH signaling pathway, Insulin signaling pathway, Long-term depression, Long-term potentiation, MAPK signaling pathway, Melanogenesis, Melanoma, Natural killer cell mediated cytotoxicity, Neurotrophin signaling pathway, Non-small cell lung cancer, Pancreatic cancer, Pathways in cancer, Progesterone-mediated oocyte maturation, Prostate cancer, Regulation of actin cytoskeleton, Renal cell carcinoma, T cell receptor signaling pathway, Thyroid cancer, Tight junction, VEGF signaling pathway
<b>Gene Summary:</b>	This gene, a Kirsten ras oncogene homolog from the mammalian ras gene family, encodes a protein that is a member of the small GTPase superfamily. A single amino acid substitution is responsible for an activating mutation. The transforming protein that results is implicated in various malignancies, including lung adenocarcinoma, mucinous adenoma, ductal carcinoma of the pancreas and colorectal carcinoma. Alternative splicing leads to variants encoding two isoforms that differ in the C-terminal region. [provided by RefSeq, Jul 2008]