

## Product datasheet for RC202681

### NRAS (NM\_002524) Human Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** NRAS (NM\_002524) Human Tagged ORF Clone  
**Tag:** Myc-DDK  
**Symbol:** NRAS  
**Synonyms:** ALPS4; CMNS; N-ras; NCMS; NRAS1; NS6  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**ORF Nucleotide Sequence:** >RC202681 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGACTGAGTACAACTGGTGGTGGTTGGAGCAGGTGGTGGTGGGAAAAGCGCACTGACAATCCAGCTAA  
 TCCAGAACCACCTTTGTAGATGAATATGATCCCACCATAGAGGATTCTTACAGAAAACAAGTGTTATAGA  
 TGGTGAACCTGTTTGGTGGACATACTGGATACAGCTGGACAAGAAGAGTACAGTGCCATGAGAGACCAA  
 TACATGAGGACAGCGAAGGCTTCTCTGTGATTTGCCATCAATAATAGCAAGTCATTTGCGGATTA  
 ACCTCTACAGGGAGCAGATTAAGCGAGTAAAAGACTCGGATGATGTACCTATGGTGCTAGTGGGAAACAA  
 GTGTGATTTGCCAACAAGGACAGTTGATACAAAACAAGCCACGAACTGGCCAAGAGTTACGGGATCCA  
 TTCATTGAAACCTCAGCCAAGACCAGACAGGGTGTGAAGATGCTTTTTACACTGGTAAGAGAAATAC  
 GCCAGTACCGAATGAAAAAACTCAACAGCAGTGATGATGGGACTCAGGGTGTATGGGATTGCCATGTGT  
 GGTGATG

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC202681 protein sequence  
 Red=Cloning site Green=Tags(s)

MTEYKLVVVGAGGVGKSALTIQLIQNHFVDEYDPTIEDSYRKQVVIDGETCLLDILDITAGQEEYSAMRDQ  
 YMRTEGEGFLCVFAINNSKSFADINLYREQIKRVKDSDDVPMVLVGNKCDLPTRTVDTKQAHELAKSYGIP  
 FIETSAKTRQGVEDAFYTLVREIRQYRMKKLNSDDGTQCGMGLPCVVM

**TRTRPLEQKLI**SEEDLAANDILDYKDDDDKV



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**Chromatograms:** [https://cdn.origene.com/chromatograms/mk6079\\_a04.zip](https://cdn.origene.com/chromatograms/mk6079_a04.zip)

**Restriction Sites:** Sgfl-MluI

**Cloning Scheme:**



**ACCN:** NM\_002524

**ORF Size:** 567 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.

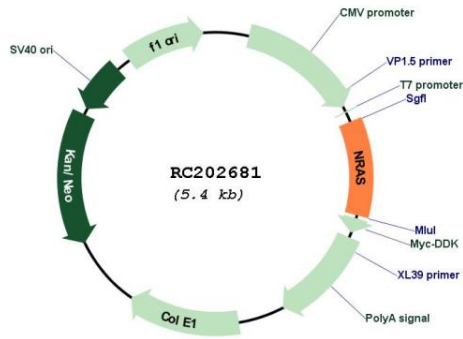
The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in 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.

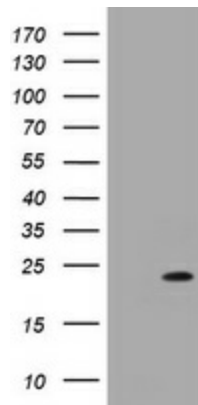
**Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<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="#">NM_002524.5</a>
<b>RefSeq Size:</b>	4454 bp
<b>RefSeq ORF:</b>	570 bp
<b>Locus ID:</b>	4893
<b>UniProt ID:</b>	<a href="#">P01111</a>
<b>Cytogenetics:</b>	1p13.2
<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, 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, Pathways in cancer, Prostate cancer, Regulation of actin cytoskeleton, Renal cell carcinoma, T cell receptor signaling pathway, Thyroid cancer, Tight junction, VEGF signaling pathway
<b>MW:</b>	21.2 kDa
<b>Gene Summary:</b>	This is an N-ras oncogene encoding a membrane protein that shuttles between the Golgi apparatus and the plasma membrane. This shuttling is regulated through palmitoylation and depalmitoylation by the ZDHHC9-GOLGA7 complex. The encoded protein, which has intrinsic GTPase activity, is activated by a guanine nucleotide-exchange factor and inactivated by a GTPase activating protein. Mutations in this gene have been associated with somatic rectal cancer, follicular thyroid cancer, autoimmune lymphoproliferative syndrome, Noonan syndrome, and juvenile myelomonocytic leukemia. [provided by RefSeq, Jun 2011]

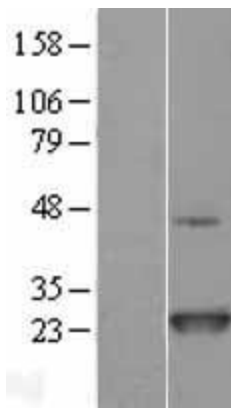
Product images:



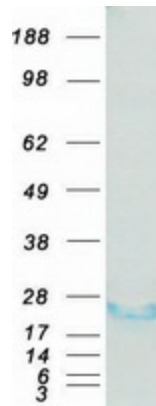
Circular map for RC202681



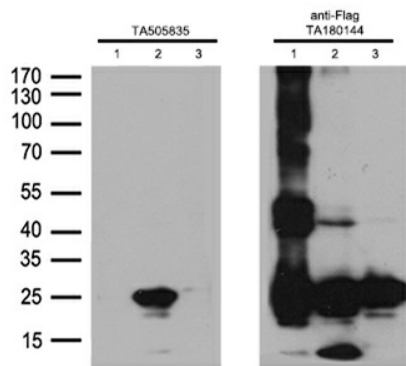
HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY NRAS (Cat# RC202681, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-NRAS (Cat# [TA505835]). Positive lysates [LY400901] (100ug) and [LC400901] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY400901]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC202681 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified NRAS protein (Cat# [TP302681]). The protein was produced from HEK293T cells transfected with NRAS cDNA clone (Cat# RC202681) using MegaTran 2.0 (Cat# [TT210002]).



Western blot analysis of anti-NRAS monoclonal antibody, TA505835.  
Incubation: 1:500, 1h.  
1: lysate of 293T transfected with HRAS plasmid, RC225202  
2: lysate of 293T transfected with NRAS plasmid, RC202681  
3: lysate of 293T transfected with KRAS plasmid, RC222697

HEK293T cells were transfected with the 3 different overexpression plasmids (1:HRAS, Cat# [RC225202];2: NRAS, Cat# RC202681; 3:KRAS, Cat# [RC222697]) for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-flag antibody (Cat# [TA180144], 1:1000) or anti-NRAS mouse monoclonal antibody (Cat# [TA505835], 1:500).