

## Product datasheet for RC229610

### NUDT16 (NM\_001171905) Human Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids

**Tag:** Myc-DDK

**Symbol:** NUDT16

**Mammalian Cell Selection:** Neomycin

**Vector:** pCMV6-Entry (PS100001)

**E. coli Selection:** Kanamycin (25 ug/mL)

**ORF Nucleotide Sequence:** >RC229610 representing NM\_001171905  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCCGGATCGCC

ATGCAGATGCGCTTCGATGGACGCCTGGGCTTCCCGGCGGATTCGTGGACACGCAGGACAGAAGCCTAG  
AGGACGGGCTGAACCGCGAGCTGCGCGAGGAGCTGGGCGAAGCGGCTGCCGCTTCCGCGTGGAGCGCAC  
TGACTACCGCAGCTCCACGTCGGGTCAAGGCCACGCGTTGTGGCCCACTTCTATGCCAAGCGTCTGACC  
CTCGAGGAGCTGTTGGCTGTGGAGGCCGGCGCAACACGCGCCAAGGACCACGGGCTGGAGGTGCTGGGCC  
TGGTGCAGTGCCTGTATACCCTGCGGGATGGTGTAGGAGGCCTGCCTACCTTCTGGAGAATTCCTT  
TATTGGCTCTGCGCGGAGCAGTACTTGAAGCAGCCCTCCATGGACCCATGAAAACAGGATGAGGACC  
TTGGTACTAGGGAGGGAGGGAAGGACGTGGGAATGTTTTCTTATTGGATCTGAGAGA

AGCGGACCGACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC  
TGGATTACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC229610 representing NM\_001171905  
Red=Cloning site Green=Tags(s)

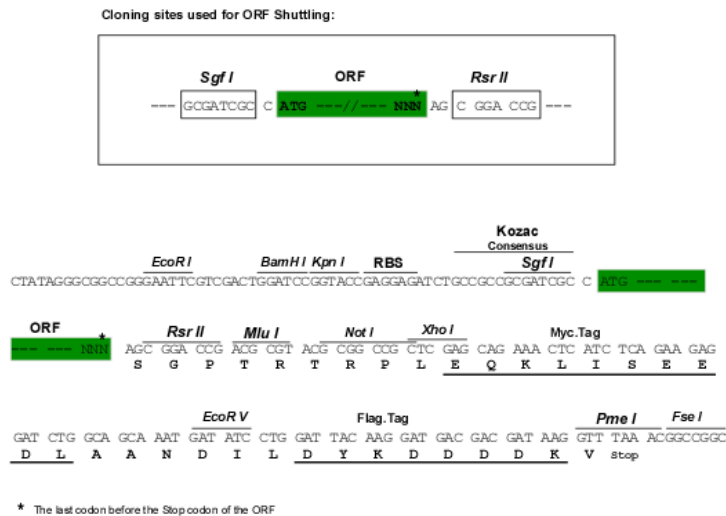
MQMRFDGRLLGPPGFVDTQDRSLEDGLNRELREELGEAAAAFRVERTDYRSSHVSGSPRVVAHFYAKRLT  
LEELLAVEAGATRAKDHGLEVLGLVRVPLYTLRDGVGGLPTFLENSFIGSAREQLLEAALHGPMKTEMRT  
LVLGREGRTWECFLIGSER

SGPTRRRLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/ja1440\\_g06.zip](https://cdn.origene.com/chromatograms/ja1440_g06.zip)

**Restriction Sites:** SgfI-RsrII



**Cloning Scheme:**


**ACCN:** NM\_001171905

**ORF Size:** 477 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\\_001171905.1](#), [NP\\_001165376.1](#)

RefSeq ORF: 480 bp

Locus ID: 131870

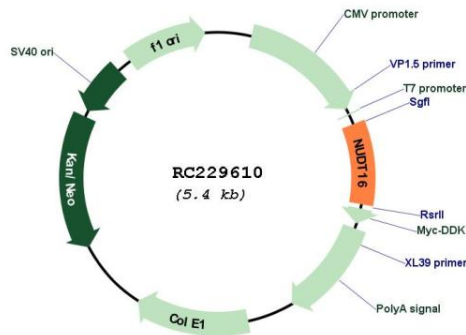
UniProt ID: [Q96DE0](#)

Cytogenetics: 3q22.1

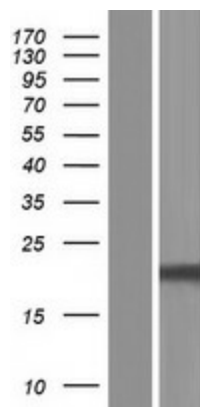
MW: 18.1 kDa

**Gene Summary:** RNA-binding and decapping enzyme that catalyzes the cleavage of the cap structure of snoRNAs and mRNAs in a metal-dependent manner. Part of the U8 snoRNP complex that is required for the accumulation of mature 5.8S and 28S rRNA. Has diphosphatase activity and removes m7G and/or m227G caps from U8 snoRNA and leaves a 5' monophosphate on the RNA. Catalyzes also the cleavage of the cap structure on mRNAs. Does not hydrolyze cap analog structures like 7-methylguanosine nucleoside triphosphate (m7GpppG). Also hydrolysis m7G- and m227G U3-capped RNAs but with less efficiencies. Has broad substrate specificity with manganese or cobalt as cofactor and can act on various RNA species. Binds to the U8 snoRNA; metal is not required for RNA-binding. May play a role in the regulation of snoRNAs and mRNAs degradation. Acts also as a phosphatase; hydrolyzes the non-canonical purine nucleotides inosine diphosphate (IDP) and deoxyinosine diphosphate (dITP) as well as guanosine diphosphate (GDP), deoxyguanosine diphosphate (dGDP), xanthine diphosphate (XDP), inosine triphosphate (ITP) and deoxyinosine triphosphate (ITP) to their respective monophosphate derivatives and does not distinguish between the deoxy- and ribose forms (PubMed:20385596, PubMed:26121039). The order of activity with different substrates is IDP > dIDP >> GDP = dGDP > XDP = ITP = dITP (PubMed:20385596). Binds strongly to GTP, ITP and XTP. Participates in the hydrolysis of dIDP/IDP and probably excludes non-canonical purines from RNA and DNA precursor pools, thus preventing their incorporation into RNA and DNA and avoiding chromosomal lesions (PubMed:20385596).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for RC229610



Western blot validation of overexpression lysate (Cat# [LY432610]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC229610 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).