

Product datasheet for **RC200818**

MDS028 (ITFG2) (NM_018463) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	MDS028 (ITFG2) (NM_018463) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	MDS028
Synonyms:	FGGAP1; MDS028
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide
Sequence:**

>RC200818 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGC**C

ATGAGGTCAGTTAGCTACGTGCAGCGCGTGGCGCTGGAGTTCAGCGGGAGCCTCTTCCCGCACGCAATCT
 GCCTCGGAGACGTTGATAACGATACGTTAAATGAAGTGGTGGGAGACACCAGCGGGAAGGTGTCTGT
 GTATAAAATGATGACAGTCGGCCATGGCTCACCTGTTCTGCCAGGGAATGCTGACTTGCCTGGGGTT
 GGAGACGTGTGTAATAAAGGAAAGAACCTGTTGGTGGCAGTGAGTGCTGAAGGCTGGTTTTCATTTGTTT
 ACCTGACACCTGCCAAGGTGTTGGATGCTTCTGGGCACCACGAGACACTAATCGGAGAGGAGCAGCGTCC
 AGTCTTCAAGCAGCACATCCCTGCCAACCAAGGTCATGCTGATCAGCGACATCGATGGAGATGGGTGT
 CGTGAGCTGGTGGTGGGTACACAGACCGTGTGGTGCGAGCTTCCGCTGGGAGGAGCTAGGTGAGGGTC
 CTGAACATCTGACAGGGCAGCTGGTGTCCCTCAAGAAATGGATGCTGGAGGGTCAGGTGGACAGCCTCTC
 AGTGACTCTGGGGCCACTGGGTCTTCTGAAGTGTCTCAGCCAGGTTGTGCGTATGCAATTCTA
 CTGTGTACCTGGAAAAAGGACACTGGGTCCCCTCTGCCTCTGAAGGGCCACCGATGGTAGTAGGAGA
 CCCCAGCTGCCCCGAGACGTGGTGTGCACAGACATCTGGCCGTATCCACAACAAGAATGTCTCCACTCA
 CCTAATTGGCAACATCAAACAAGGCCACGGCACTGAGAGTAGTGGCTCTGGCCTCTTTGCCCTGTGCACC
 CTGGATGGGACACTGAAGCTCATGGAAGAAATGGAAGAAGCAGACAAGCTGCTGTGGTCACTGCAGGTGG
 ATCACCAGCTCTTTGCCCTGGAGAACTGGATGTACCCGGCAACGGGCATGAGGAGGTAGTTGCATGCGC
 CTGGGATGGACAGACATATCATTGATCACAACCGCACCGTCGTCGGCTTCCAAGTGGATGAAAATATC
 CGTGCCCTTCTGTGAGGCTGTACGCTGCAAGAGGGGCCGCAACAGCCCTGCCTCGTATATGTCACTT
 TCAACCAGAAGATCTATGTGACTGGGAGGTGCAGCTGGAGCGGATGGAGTCTACCAATCTGGTGAAGT
 GCTGGAGACCAAGCCGGAGTACCACAGCCTGCTGCAGGAGCTGGGCGTGGATCCTGACGACCTCCCTGTG
 ACTCGTGCCCTGCTTACCAAACGCTCTACCATCCAGACCAGCCACCACAGTGTGCTCCCTCAAGCCTCC
 AGGATCCACC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC200818 protein sequence
 Red=Cloning site Green=Tags(s)

MRSVSYYQRVALEFSGSLFPHAICLDVDNDTLNELVVGDTSGKVSYYKNDDSRPWLTCSCQGM LTCVGV
 GDVCNKGKNLLVAVSAEGWFHLDLTPAKVLDASGHETLIGEEQRPVFKQHIPANTKVMLISDIDGDC
 RELVVGYTDRVVRAFRWEELGEGPEHLTGQLVSLKKWMLLEGQVDSL SVTLGPLGLPELMVSQPGCAYAIL
 LCTWKKDTGSPPASEGPTDGSRETPAARDVVLHQTSGRIHNKNVSTHLIGNIKQGHGTESSGSLFALCT
 LDGTLKLMEEMEEADKLLWSVQVDHQLFALEKLDVTGNGHEEVVACAWDQTYIIDHNRTVVRVQVDENI
 RAFCAGLYACKEGRNSPCLVYVTFNQKIYVYWEVQLERMESTNLVKLLETKEPYHSLQLQELGVDPDDLPLV
 TRALLHQTLYHPDQPPQCAPSSLQDPT

TRTRPLE**QKL**ISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6417_f04.zip

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_018463

ORF Size: 1341 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_018463.4](#)

RefSeq Size: 2379 bp

RefSeq ORF: 1344 bp

Locus ID: 55846

UniProt ID: [Q969R8](#)

Cytogenetics: 12p13.33

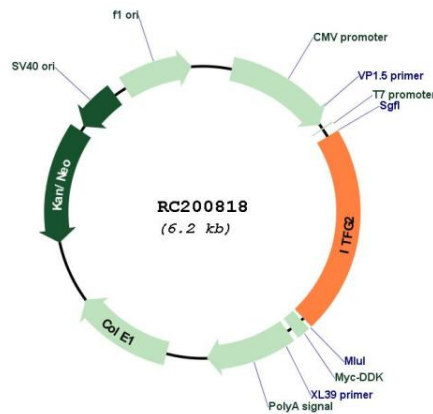
Domains: FG-GAP

Protein Families: Druggable Genome

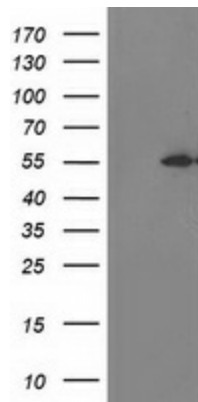
MW: 49.3 kDa

Gene Summary: As part of the KICSTOR complex functions in the amino acid-sensing branch of the TORC1 signaling pathway. Recruits, in an amino acid-independent manner, the GATOR1 complex to the lysosomal membranes and allows its interaction with GATOR2 and the RAG GTPases. Functions upstream of the RAG GTPases and is required to negatively regulate mTORC1 signaling in absence of amino acids. In absence of the KICSTOR complex mTORC1 is constitutively localized to the lysosome and activated. The KICSTOR complex is also probably involved in the regulation of mTORC1 by glucose.[UniProtKB/Swiss-Prot Function]

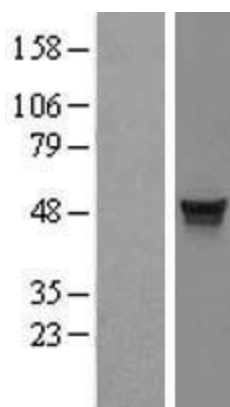
Product images:



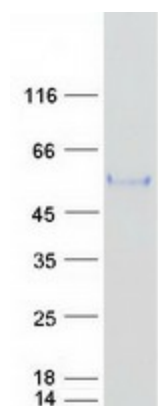
Circular map for RC200818



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY ITFG2 (Cat# RC200818, 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-ITFG2(Cat# [TA503050]). Positive lysates [LY413041] (100ug) and [LC413041] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY413041]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC200818 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified ITFG2 protein (Cat# [TP300818]). The protein was produced from HEK293T cells transfected with ITFG2 cDNA clone (Cat# RC200818) using MegaTran 2.0 (Cat# [TT210002]).