

Product datasheet for **RC205868**

CASTOR1 (NM_001037666) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CASTOR1 (NM_001037666) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	CASTOR1
Synonyms:	GATSL3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC205868 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGAGCTGCACATCCTAGAACACCGGGTGCGGGTGCTGAGCGTCGCCCGTCCCGGTCTCTGGCTCTACA
CCCACCCGCTCATCAAGCTGCTCTTCCTGCCCGCCGAGCCGGTGAAGTTCTTCAGCCTGACGGAGAC
CCCTGAGGATTACACGCTTATGGTGGACGAGGAGGGCTTAAAGAGCTGCCCCCATCTGAGTTCTGCAA
GTAGCTGAGGCCACATGGCTGGTGTGAACGTGTCGTCTCACAGCGGTGCGGCAGTGCAGGCTGCTGGG
TCACCAAGATCGCCCGTTCGGTCATCGGCCACTGGCCGAGCACCACGTGTCTGTGCTGATGCTGTCCAC
TTACCAGACGGACTTCATCCTGGTGCGGGAGCAGGACCTGTCCGTGGTGTCCACACGCTGGCCAGGAG
TTCGACATTTACCGGAGGTGGGCGGAGAGCCTGTGCCTGTGACGAGGGATGATTCCAGCAATGGCTTTC
CCCGCACTCAGCATGGGCCAGCCACCGGTGCATCCCATCCAGAGCCACAGAACCCTTCTGTGTCTCT
CACACTGGACCCTGAGACGCTTCCAGCCATCGCCACCACCCTCATAGATGTCTCTTCTACTCGCACAGC
ACCCCAAGGAGGCAGCCTTAGCAGTCTGAACCCAGCTCCATCACGTTCTTTGCCTTCTCCCTCATCG
AGGGTTATATCTCCATTGTCATGGATGCTGAAACACAGAAAAGTTCCCAAGTACCTCTGTGACCAG
CTCCTCGGGGAGCTGTGGAGGATGGTGCATCGGTGGACAGCCCTGGGCTTTGATGAATGTGGCATC
GTGGCACAGATTGCAGGTCCCCTGGCTGCCGCTGACATCTGCTACTACATCAGCACCTCAACTTCG
ACCAGCCCTGGTGCAGGACGGTATCGGCAGCGTCATCGAGGTCTCCAGCGCGGCAGGAAGCCCT
GGCTTCC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC205868 protein sequence
Red=Cloning site Green=Tags(s)

MELHILEHRVRVLSVARPGLWL YTHPLIKLLFLPRRSRCKFFSLTETPEDYTLMVDEEGFKELPPSEFLQ
 VAEATWLVLNSSHSGAAVQAAGVTKIARSVIAPLAEHHSVLMMLSTYQTDLILVREQDLSVVIHTLAQE
 FDIYREVGGEVPVTRDDSSNGFPRTQHGPSPTVHPIQSPQNRFCVLTLPETLPAIATTLIDVLFYSHS
 TPKEAASSPEPSSITFFAFSLIEGYISIVMDAETQKKFPSDLLLTSSSGELWRMVRIGGQPLGFDECGI
 VAQIAGPLAAADISAYYISTFNFHDHALVPEDGIGSVIEVLQRRQEGLAS

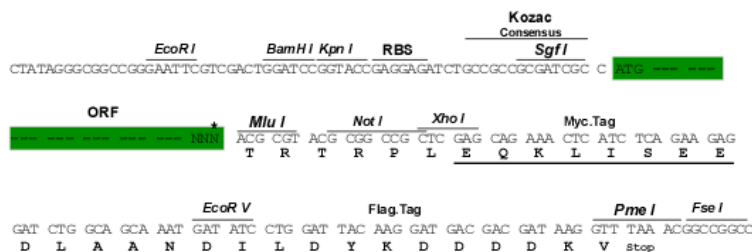
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6420_b08.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_001037666

ORF Size: 987 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.

RefSeq: [NM_001037666.3](#)

RefSeq Size: 1644 bp

RefSeq ORF: 990 bp

Locus ID: 652968

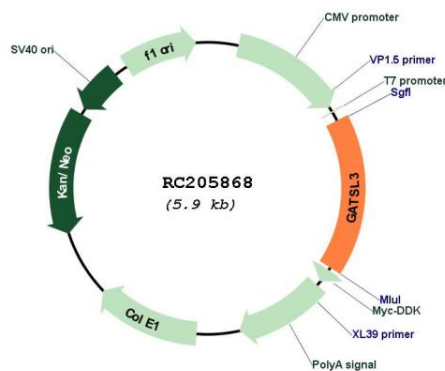
UniProt ID: [Q8WTX7](#)

Cytogenetics: 22q12.2

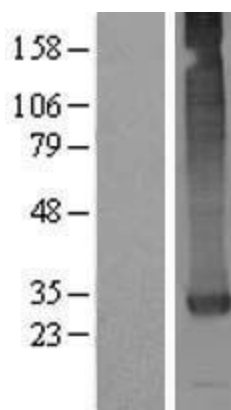
MW: 36.3 kDa

Gene Summary: Functions as an intracellular arginine sensor within the amino acid-sensing branch of the TORC1 signaling pathway. As a homodimer or a heterodimer with CASTOR2, binds and inhibits the GATOR subcomplex GATOR2 and thereby mTORC1. Binding of arginine to CASTOR1 allosterically disrupts the interaction of CASTOR1-containing dimers with GATOR2 which can in turn activate mTORC1 and the TORC1 signaling pathway.[UniProtKB/Swiss-Prot Function]

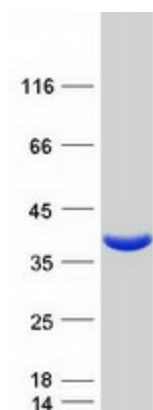
Product images:



Circular map for RC205868



Western blot validation of overexpression lysate (Cat# [LY421975]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC205868 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CASTOR1 protein (Cat# [TP305868]). The protein was produced from HEK293T cells transfected with CASTOR1 cDNA clone (Cat# RC205868) using MegaTran 2.0 (Cat# [TT210002]).