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Product datasheet for RR203318

Plk4 (NM_001107669) Rat Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Plk4 (NM_001107669) Rat Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Plk4
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin

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ORF Nucleotide Sequence:

>RR203318 representing NM_001107669
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

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CTGGTCTCTATAATTACTTTGAAGATAACAATTACGTATACCTGGTATTAGAAATGTGCCACAACGGAGA
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ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RR203318 representing NM_001107669
Red=Cloning site Green=Tags(s)

MAACIGERIEDFKVGNLLGKGSFAGLYNYFEDNNYVYLVLEMCHNGEMNRYLKNRMKPRHFMHQIITGML
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SLGCMFYTLLIGRPPFDTDTVKNTLNKVVLADYEMPAFLSREAQDLIHQLLRRNPADRLSLSSVLDHPFM
SRNPSTKSKDLGTVEDSMDSGHATLSTTITASSGTSLSGSLLDRRRLLVGQPLPNKITVFQKNKNSSDFS
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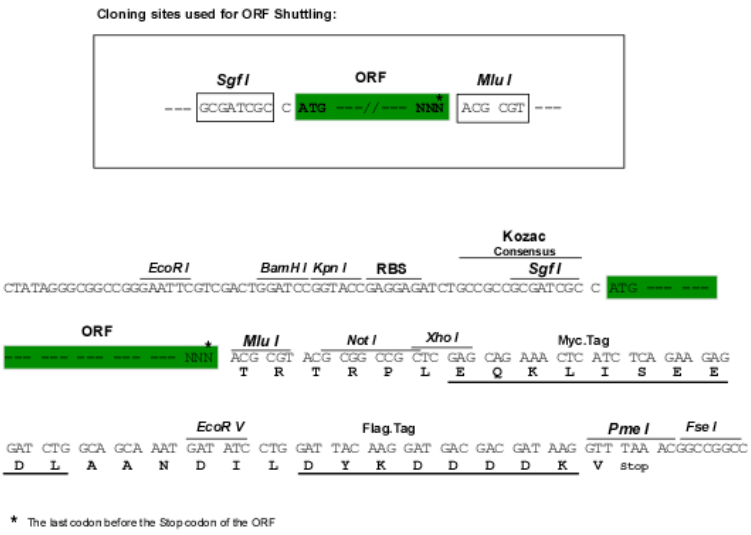
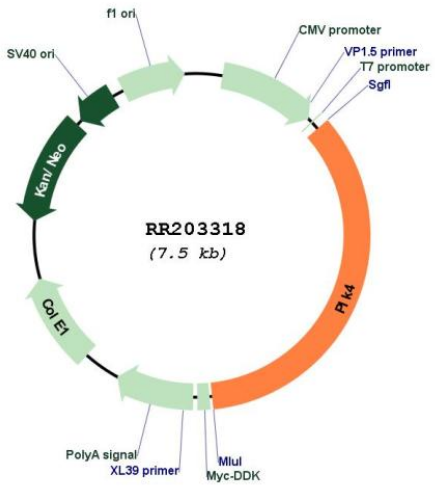
Restriction Sites: SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN:	NM_001107669
ORF Size:	2607 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_001107669.1, NP_001101139.1
RefSeq Size:	3299 bp
RefSeq ORF:	2610 bp
Locus ID:	310344
Cytogenetics:	2q25
MW:	97.5 kDa
Gene Summary:	Serine/threonine-protein kinase that plays a central role in centriole duplication. Able to trigger procentriole formation on the surface of the parental centriole cylinder, leading to the recruitment of centriole biogenesis proteins such as SASS6, CENPJ/CPAP, CCP110, CEP135 and gamma-tubulin. When overexpressed, it is able to induce centrosome amplification through the simultaneous generation of multiple procentrioles adjoining each parental centriole during S phase. Phosphorylates 'Ser-151' of FBXW5 during the G1/S transition, leading to inhibit FBXW5 ability to ubiquitinate SASS6. Its central role in centriole replication suggests a possible role in tumorigenesis, centrosome aberrations being frequently observed in tumors. Also involved in deuterosome-mediated centriole amplification in multiciliated that can generate more than 100 centrioles. Also involved in trophoblast differentiation by phosphorylating HAND1, leading to disrupt the interaction between HAND1 and MDFIC and activate HAND1. Phosphorylates CDC25C and CHEK2. Required for the recruitment of STIL to the centriole and for STIL-mediated centriole amplification (By similarity).[UniProtKB/Swiss-Prot Function]