

## Product datasheet for MR231802

### Dapk1 (NM\_001285917) Mouse Tagged ORF Clone

#### Product data:

|                          |  |
|--------------------------|--|
| Product Type:            | Expression Plasmids  |
| Product Name:            | Dapk1 (NM_001285917) Mouse Tagged ORF Clone                                    |
| Tag:                     | Myc-DDK  |
| Symbol:                  | Dapk1  |
| Synonyms:                | D13Ucla1; DAP-Kinase   |
| Vector:                  | pCMV6-Entry (PS100001)   |
| E. coli Selection:       | Kanamycin (25 ug/mL)   |
| Cell Selection:          | Neomycin   |
| ORF Nucleotide Sequence: | >MR231802 representing NM_001285917<br>Red=Cloning site Blue=ORF Green=Tags(s) |

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCCGCGATCGCC

ATGACTGTGTTCCAGGCAGGAAAACGTGGACGACTACTACGACACCGGCGAGGAAGTGGCAGTGGACAGT  
TCGCAGTTGTGAAGAAATGTCGTGAGAAAAGTACCGGTCTTCAGTATGCGGCCAAGTTCATCAAGAAAAG  
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CAACAAGCACTTAGTCGAAAAGCCTCAGCAGTAAACATGGAGAAATTCAGAAGTTTGCAGCTCGGAAAA  
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CATTGCTGACGGCGTCTGCCAGGGGCTATCATGACATTGTGGAGTGTCTGGCTGAACATGGAGCTGACT  
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AAGACCTCCTTGGCCATGGGTCTTTGTGGATTTCCAGGACAGGCATGGCAACACACCCCTGCACGTGG  
CCTGCAAAGATGGAAGCGCACCTATCGTGGTGGCCCTCTGTGAAGCCAGCTGCAATCTGGACATCTCAA  
CAAGTATGGTCCGACTCCTCTCCACCTTGACGCAACAACGGGATCCTAGATGTGGTCCGCTACCTCTGT  
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GCTTTGGGTGTCATGACGTCTACTCACAGGCCAGTCTTGGCATGGATATCCATGCGTTCAGACCTGAGTCT  
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GCCATGAACCTGGGCCTCCCAGACATGGTGGCCAAACACAACGTCAACAACAGGGCTTCTAGGGATTTCC  
TCCCTAGCCAGTGCATGCCTTGCTACAGGAATGGACCTCCTACCTGAGAGCACGGTGGGATCCTTAT  
ATCAAACCTTGGGAGCTGGGGCCCGGGATGCTGCGGACTTTTACTGAAGGCCTCCTGTGTTCAG  
ATCAAACCTTGGTGAATGGCCAGGAGGCTATGCCTCAAGCTGAACAGTGGCAGCTCCTACAATTCCA  
TTAGCTCAGTGGTGTCCCGGAGAGACTCCCATGCTTGGACCCACTGTATGATTTA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >MR231802 representing NM\_001285917  
 Red=Cloning site Green=Tags(s)

MTVFRQENVDDYYDTGEELGSGQFAVVKKCREKSTGLQYAAKFIKKRRTKSSRRGVSREDIEREVSILKE  
 IRHPNVITLHEVYENKTDVILILELVAGGELDFLAEKESL TEEATEFLKQILSGVYYLHSLQIAHFDL  
 KPENIMLLDRNVPKPRIKIIDFGLAHKIDFGNEFKNIFGTPEFVAPEIVNYEPLGLEADMWSIGVITYIL  
 LSGASPFLGDTKQETLANVSAVNYDFEEFFRNTSTLAKDFIRRLLVKDPKKRMTIQDSLQHPWIKPKDT  
 QQALSRKASAVNMEKFKKF AARKKWKQSVRLISLQRLSRSFLSRSNMSVARSDDTLDEEDSFVMKAIH  
 AINDDNVPLQHLLGSLSSYDVNQPNKHGTPPLLIAAGCGNIQMLQLLIKRGSRIDVQDKGGSNAIYWAS  
 RHGHVDTLKFLNENKCPLDVKDKSGETALHVAARYGHADVQLLCSFGSNPDFQDKEETPLHCAAWHGY  
 YSAKALCEVGCNVNIKNREGETPLL TASARGYHDIVECLAHEGADLNASDKDGHIALHLAVRRCQMEVI  
 KTL LGHGSFVDFQDRHGNTPLHVACKDGSAPIVVALCEASCNLDISNKYGRTPHLAANNGILDVVRVLC  
 LMGANVEALTSDGKTAEDLAKAEQHEHVAGLLARLRKDTHRGLFIQQLRPTQNLQPRIKLLFGHSGSGK  
 STLVESLKCGLLRSFFRRRRPRLSSTNSTRFPSPLAAPTVSVSINNL YPGCENVSRSRSMFEPGLT  
 KGMLVVFVAPSHHLHCSTDDQSTKAIDIQNAYLNGVGFVWVEFSGNPVVFCCYDYFAANDPTSIHIVF  
 SLEEPYEIQLNQVIFWLSFLKSLVPVEEPIAFGGKLNPLRVVLVATHADIMNIPRPAGGEFGYDKDTSL  
 LKEIRNRFGNDLHVS NKLFVLDAGASGSKDIKVLRNHLQEIRSQIVSGCSPMTHLCEKIISTLPSWRKLN  
 GPNQLMSLQQFVYDVQDQLNPLASEDDLRRIAQQQLHSTGEINIMQSETVQDVLLLDPRWLCTNVLGKLLS  
 VETPRALHHYGRYTMEDIQRLVPDSVVEELLQILDAMDICARDLSSGTMVDIPALIKTDSLQRSWADEE  
 DEVMVYGGVRIVPVEHLTPFPCGIFHKVQVNLCRWIHQSAEGDADIRLWVSGCRIANRGAELLVLLVNH  
 GQGIEVQVRGLETEKIKCCLLLDSVCSTIETVMATTL PGLLTVKHVYLSPPQLREHHEPVMVYQPRDFRA  
 QTLKESSTNTMGGYKESFSITCFGCHDVYSQASLGMDIHASDLSLLTRRKL SRLLDPPDPMGKDWCLL  
 AMNLGLPDMVAKHNVNRRASRDFLPSVHALLQEWTSYPESTVGLISKLRELGRRAADFLLKASSVFK  
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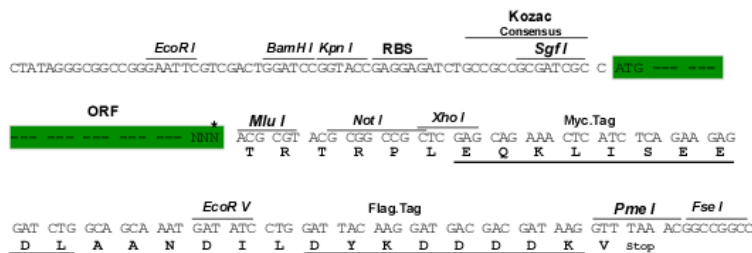
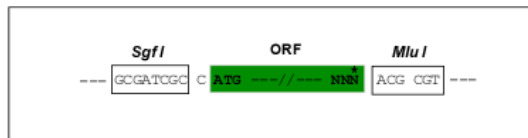
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfl-MluI

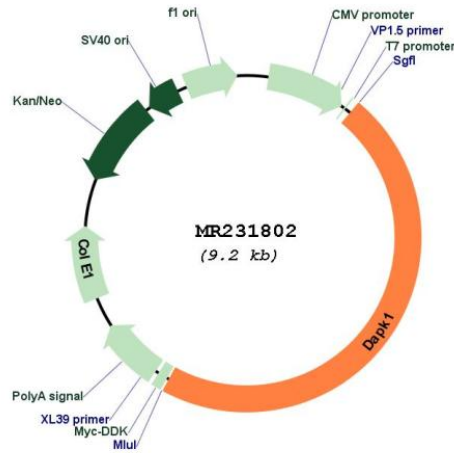
Cloning Scheme:

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

Plasmid Map:



ACCN: NM\_001285917

ORF Size: 4326 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\\_001285917.1](#), [NP\\_001272846.1](#)

**RefSeq Size:** 5398 bp

**RefSeq ORF:** 4329 bp

**Locus ID:** 69635

**UniProt ID:** [Q80YE7](#)

**Cytogenetics:** 13 32.53 cM

**MW:** 161.9 kDa

**Gene Summary:** Calcium/calmodulin-dependent serine/threonine kinase involved in multiple cellular signaling pathways that trigger cell survival, apoptosis, and autophagy. Regulates both type I apoptotic and type II autophagic cell deaths signal, depending on the cellular setting. The former is caspase-dependent, while the latter is caspase-independent and is characterized by the accumulation of autophagic vesicles. Phosphorylates PIN1 resulting in inhibition of its catalytic activity, nuclear localization, and cellular function. Phosphorylates TPM1, enhancing stress fiber formation in endothelial cells. Phosphorylates STX1A and significantly decreases its binding to STXBP1. Phosphorylates PRKD1 and regulates JNK signaling by binding and activating PRKD1 under oxidative stress. Phosphorylates BECN1, reducing its interaction with BCL2 and BCL2L1 and promoting the induction of autophagy. Phosphorylates TSC2, disrupting the TSC1-TSC2 complex and stimulating mTORC1 activity in a growth factor-dependent pathway. Phosphorylates RPS6, MYL9 and DAPK3 (By similarity). Acts as a signaling amplifier of NMDA receptors at extrasynaptic sites for mediating brain damage in stroke. Cerebral ischemia recruits DAPK1 into the NMDA receptor complex and it phosphorylates GRINB at Ser-1303 inducing injurious Ca(2+) influx through NMDA receptor channels, resulting in an irreversible neuronal death. Required together with DAPK3 for phosphorylation of RPL13A upon interferon-gamma activation which is causing RPL13A involvement in transcript-selective translation inhibition.[UniProtKB/Swiss-Prot Function]