

Product datasheet for **SC323553**

MARK1 (NM_018650) Human Untagged Clone

Product data:

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| Product Type: | Expression Plasmids |
| Product Name: | MARK1 (NM_018650) Human Untagged Clone |
| Tag: | Tag Free |
| Symbol: | MARK1 |
| Synonyms: | MARK; Par-1c; Par1c |
| Mammalian Cell Selection: | None |
| Vector: | <u>pCMV6-XL5</u> |
| E. coli Selection: | Ampicillin (100 ug/mL) |



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Fully Sequenced ORF: >NCBI ORF sequence for NM_018650, the custom clone sequence may differ by one or more nucleotides

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ATGTCGGCCCGGACGCCATTGCCGACGGTGAACGACGGGACACGAAAAATCATACATCTGTGGATGGAT
ATACTGAACCACACATCCAGCCTACCAAGTCGAGTAGCAGACAGAACATCCCCGGTGTAGAACTCCAT
TAGCTCAGCAACAGATGAACAGCCTCACATTGGAAATTACCGTTTACAAAAACAATAGGGAAGGGAAAT
TTTGCCAAAGTCAAATTGGCAAGACACGTTCTAACTGGTAGAGAGGTTGCTGTGAAAATAATAGACAAAA
CTCAGCTAAATCTACCAGTCTACAAAAGTTATTTGAGAAAGTACGAATAATGAAGATACTGAATCATCC
TAATATAGTAAAAATTGTTTGAAGTTATTGAAACAGAGAAGACTCTCTATTTAGTCATGGAATACGCGAGT
GGGGGTGAAGTATTTGATTACTTAGTTGCCATGGAAGAATGAAAGAGAAAAGAGGCCCGTCAAAAATTTA
GGCAGATTGTATCTGCTGTACAGTATTGTCATCAAAAAGTACATTGTTACCCGTGATCTTAAGGCTGAAAA
CCTTCTCCTTGATGGTGATATGAATATTAATAATGCTGACTTTGGTTTTAGTAATGAATTTACAGTTGGG
AACAAATTGGACACATTTTGTGGAAGCCCACCCTATGCTGCTCCCGAGCTTTTCCAAGGAAAGAAGTATG
ATGGCCCTGAAGTGGATGTGTGGAGTCTGGGCGTATTCTCTATACATTAGTCAGTGGCTCCTTGCCTTT
CGATGGCCAGAATTTAAAGGAACTGCGAGAGCGAGTTTTACGAGGGAAGTACCGTATTCCCTTCTATATG
TCCACAGACTGTGAAAATCTTCTGAAGAAATTATTAGTCCTGAATCCAATAAAGAGAGGCAGCTTGAAC
AAATAATGAAAGATCGATGGATGAATGTTGGTCATGAAGAGGAAGAACTAAAGCCATATACTGAGCCTGA
TCCGGATTTCAATGACACAAAAAGAATAGACATTATGGTCACCATGGGCTTTGCACGAGATGAAATAAT
GATGCCTTAATAAATCAGAAGTATGATGAAGTTATGGCTACTTATATTCTTCTAGGTAGAAAACACCTG
AATTTGAAGGTGGTGAATCGTTATCCAGTGGAACTTGTGTCAGAGGTCCCGGCCAGTAGTGACTTAAA
CAACAGCACTCTTCAGTCCCCTGCTCACCTGAAGTCCAGAGAAGTATCTCAGCAATCAGAAGCAGCGG
CGTTTCAGTGATCATGCTGGTCCATCCATTCTCCTGCTGTATCATATACCAAAAGACCTCAGGCTAACA
GTGTGAAAAGTGAACAGAAAGAGGAGTGGGACAAAGATGTGGCTCGAAAACCTTGGCAGCACAACAGTTGG
ATCAAAAAGCGAGATGACTGCAAGCCCTTGTAGGGCCAGAGAGGAAAAAATCTTCAACTATTCCAAGT
AACAAATGTGATTTCTGGAGGTAGCATGGCAAGAAGGAATACATATGTCTGTGAAAGGACCACAGATCGAT
ACGTAGCATTGCAGAAATGGAAAAGACAGCAGCCTTACGGAGATGTCTGTGAGTAGCATATCTTCTGCAGG
CTCTTCTGTGGCCTCTGCTGTCCCCTCAGCAGCAGCCCGCCACCAGAAGTCCATGTCCACTTCTGGTCAT
CCTATTAAGTCACTGCCAACCATTAAGACGGCTCTGAAGCTTACCGGCCTGGTACAACCCAGAGAG
TGCTGCTGCTTCCCCTCTGCTCACAGTATTAGTACTGCGACTCCAGACCGGACCCGTTTTCCCGAGG
GAGCTCAAGCCGAAGCACTTTCCATGGTGAACAGCTCCGGGAGCGACGCAGCGTTGCTTATAATGGCCA
CCTGCTTACCATCCCATGAAACGGGTGCATTTGCACATGCCAGAAGGGGAACGTCAACTGGTATAATAA
GCAAAATCACATCCAAATTTGTTTCGAGGGATCCAAGTGAAGGCGAAGCCAGTGGCAGAACCACACCTC
AAGAAGTACATCAGGGGAACCAAAAGAAAGAGACAAGGAAGAGGGTAAAGATTCTAAGCCGCTTCTTTG
CGGTTACATGGAGTATGAAGACCACTAGTTCAATGGACCCTAATGACATGATGAGAGAAATCCGAAAAG
TGTTAGATGCAAACTAAGTGTGATTATGAGCAAAAAGAGAGATTTTGGCTTTTCTGTGTCCATGGAGACGC
TAGACAGGATAGCCTCGTGCAGTGGGAGATGGAAGTCTGCAAGTTGCCACGACTGCACTTAATGGGGTT
CGCTTCAAGCGAATATCTGGGACATCTATTGCCTTTAAGAACATTGCATCAAAAATAGCAATGAGCTTA
AGCTGTAA
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| 5' Read Nucleotide Sequence: | <p>>OriGene 5' read for mutant NM_018650 unedited</p> <pre> CCCCCGTTGAGCAATGGGCGGTAGGCGATGTACGGTGGGAGGCTCTATATAAGCAGAGCTCGTTTAGTG AACCGTCAGAATCTTGTAAACGACTACTATAGGGCGGCGCGAATTCGGCACGAGGCAGCGCCGGCA ACCGCCTCGCCGAAGCCCTCCCTCGTTACTGTCCGCATACCCCGGCGGCGCCGCGGGAAGCGGCTC CCCCTCCTCTTCTCCGCGTCTCTTCCCTCTTCCCCCGCGGGGCGCTTGTGACCCGCCCGGGCCCC CTGCGGGAGCCGCTCGCCCCGGCCTTGCTCGCGTCCGCACCCCTTTCGTGCGCCCCCGGGGCCCC GCACCACAGCCCCGCGGAGACCCCCGGCCAGACCCCGCTGCCCGCACAAAATGTCGGCCCCGGACGCC ATTGCCGACGGTGAACGAGCGGGACACGAAATCATACTGTGGATGGATATACTGAACCACACATCC AGCCTACCAAGTCGAGTAGCAGACGACATCCCCGGTGTAGAATCATTACGTCAGCAACAGATGACAGC CTCCACATTGAATTACGGTTACCAAAAACAATAGGAGGAATTGGCCAAGTCAATTGGCAAGACCGTTCTA CTTGTAGAAGGTGCGCTGAGATGTATTGACACAACTTCGCTAATTCCCACAGTGCTCTACAAGAGA AGTATCTCACCTGTGTTTCTTACACGGTTAATCCGAGATGTCGCAGATATTAGAGATACTCGAACTC CTCTAATAGTGAATGTGTTGATGTTGACACAGAGAACCCTCTAATACTCGGATATCCGGAATGTG GGGTGAGGATTTGATGACTCAATTGCCCTGAGAATGAGAGAAAGCGCCGCTGCGCAATATGCGCATAGT TAGCCTGTGACACAATGTAGTCCAAGTACTGTGACCCGATCTAGCTGAACCTCTCTATAGGGATGAAA TAATTTCCGGCATGTGTTAAGAGTAACTG </pre> |
| Kinase Domain Sequence: | <p>>SC323553 kinase domain raw sequence. By performing BLASTX analysis with this sequence against NCBI reference protein database, you can confirm the presence of the kinase-deficient mutation</p> <pre> AYAGAACATAGGGAGGGAATTTGCCAAAGTCAAATTGGCAAGACACGTTCTAACTGGTAGAGAGTTGC TGTGATGATAATAGACAAAACCTAGCTAAATCCTACCAGTCTACAAAAGAAATATATCTACCTGTTTCT TTAACAGTTATTTGAGAAGTACGAATAATGAAGATACTGAATCATCCTAATATAGTAAAATTGTTTAA GTTATTGAAACAGAGAAGACTCTCTATTTAGTCATGGAATACGCG </pre> |
| Restriction Sites: | Please inquire |
| ACCN: | NM_018650 |
| Insert Size: | 3180 bp |
| OTI Disclaimer: | Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP). |
| OTI Annotation: | This kinase-deficient mutant clone was generated by created by site-directed mutagenesis from the corresponding wild-type clone. See details in "Application of active and kinase-deficient kinome collection for identification of kinases regulating hedgehog signaling." Cell, 2008 May p536-548. |
| 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: | <ol style="list-style-type: none"> 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. |

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| RefSeq: | <u>NM_018650.2, NP_061120.2</u> |
| RefSeq Size: | 4638 bp |
| RefSeq ORF: | 2277 bp |
| Locus ID: | 4139 |
| UniProt ID: | <u>Q9POL2</u> |
| Cytogenetics: | 1q41 |
| Domains: | UBA, pkinase, TyrKc, KA1, S_TKc |
| Protein Families: | Druggable Genome, Protein Kinase |
| Gene Summary: | <p>Serine/threonine-protein kinase (PubMed:23666762). Involved in cell polarity and microtubule dynamics regulation. Phosphorylates DCX, MAP2 and MAP4. Phosphorylates the microtubule-associated protein MAPT/TAU (PubMed:23666762). Involved in cell polarity by phosphorylating the microtubule-associated proteins MAP2, MAP4 and MAPT/TAU at KXGS motifs, causing detachment from microtubules, and their disassembly. Involved in the regulation of neuronal migration through its dual activities in regulating cellular polarity and microtubule dynamics, possibly by phosphorylating and regulating DCX. Also acts as a positive regulator of the Wnt signaling pathway, probably by mediating phosphorylation of dishevelled proteins (DVL1, DVL2 and/or DVL3).[UniProtKB/Swiss-Prot Function]</p> <p>Transcript Variant: This variant (2) uses an alternate in-frame splice site compared to variant 1. The encoded isoform (2) is shorter than isoform 1. Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.</p> |