

Product datasheet for **SC120556**

DYRK1A (NM_130436) Human Untagged Clone

Product data:

| | |
|---------------------------|---|
| Product Type: | Expression Plasmids |
| Product Name: | DYRK1A (NM_130436) Human Untagged Clone |
| Tag: | Tag Free |
| Symbol: | DYRK1A |
| Synonyms: | DYRK; DYRK1; HP86; MNB; MNBH; MRD7 |
| Mammalian Cell Selection: | None |
| Vector: | <u>pCMV6-XL5</u> |
| E. coli Selection: | Ampicillin (100 ug/mL) |



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Fully Sequenced ORF: >OriGene sequence for NM_130436 edited
 ATGCATACAGGAGGAGACTTCAGCATGCAAACCTTCATCTGTTCGGCTTGACCCGTCA
 TTTTCATTCCATGCTGCTGGCCTTCAGATGGCTGGACAGATGCCCCATTACATCAGTAC
 AGTGACCGTCGCCAGCCAAACATAAGTGACCAACAGGTTTCTGCCTTATCATATTCTGAC
 CAGATTCAGCAACCTCTAACTAACAGAGGCGGATGCCCAAACCTTCCGTGACCCAGCA
 ACTGCTCCCCTGAGAAAACCTTTCTGTTGACTTGATCAAAACATACAAGCATATTAATGAG
 GTTTACTATGCAAAAAAGAAGCGAAGACACCAACAGGGCCAGGGAGACGATTCTAGTCAT
 AAGAAGGAACGGAAGGTTTACAATGATGGTTATGATGATGATAACTATGATTATATTGTA
 AAAAACGGAGAAAAGTGGATGGATCGTTACGAAATTGACTCCTTGATAGGCAAAGTTCC
 TTTGGACAGGTTGTAAGGCATATGATCGTGTGGAGCAAGAATGGGTTGCCATTAATAA
 ATAAAGAACAAGAAGGCTTTTCTGAATCAAGCACAGATAGAAGTGCAGCTTCTTGAGCTC
 ATGAACAAACATGACACTGAAATGAAATACTACATAGTGCATTTGAAACGCCACTTTATG
 TTTCGAAACCATCTCTGTTTAGTTTTTGAATGCTGTCTACAACCTCTATGACTTGCTG
 AGAAACACCAATTTCCGAGGGTCTCTTTGAACCTAACACGAAAGTTTGCACAACAGATG
 TGCAGTGCAGTCTTTCTTGGACTCCAGAAGTTAGTATCATTCACTGTGATCTAAAA
 CCTGAAAATATCCTTCTTTGTAACCCCAACGCAGTGCAATCAAGATAGTTGACTTTGGC
 AGTTCTTGTCAGTTGGGGCAGAGGATATACCAGTATATTCAGAGTCGCTTTTATCGGTCT
 CCAGAGGTGCTACTGGGAATGCCTTATGACCTTGCCATTGATATGTGGTCCCTCGGGTGT
 ATTTTGGTTGAAATGCACACTGGAGAACCTCTGTTTCAGTGGTGCCAAATGAGGTAGATCAG
 ATGAATAAAATAGTGGAAAGTTCTGGGTATTCCACCTGCTCATATTCTTGACCAAGCACCA
 AAAGCAAGAAAGTTCTTTGAGAAGTTGCCAGATGGCACTTGGAACTTAAAGAAGACCAAA
 GATGGAAAACGGGAGTACAAACCACAGGAACCCGTAACCTTATAACATTCTTGGAGTG
 GAAACAGGAGGACCTGGTGGGCGACGTGCTGGGAGTCAGTCAACGGTTCGCTGACTAC
 TTGAAGTTCAAAGACCTCATTTTAAGGATGCTTGATTATGACCCCAAACTCGAATTCAA
 CCTTATTATGCTCTGCAGCACAGTTTCTTCAAGAAAACAGCTGATGAAGGTACAAATACA
 AGTAATAGTGTATCTACAAGCCCGCCATGGAGCAGTCTCAGTCTTCGGGACCACCTCC
 AGTACATCGTCAAGCTCAGGTGGCTCATCGGGACAAGCAACAGTGGGAGAGCCCGGTG
 GATCCGACGCACCAGCATCGGCACAGTGGTGGCACTTCACAGTGCCTGCAGGCCATG
 GACTGCGAGACACACAGTCCCAGGTGCGTCAGCAATTTCTGCTCCTCTGGTTGGTCA
 GGCAGTGAAGCTCTACACAGGTCAGTGTGAAACTCATCCTGTTCAAGAAAACAACCTTT
 CATGTAGCCCCTCAACAGAAATGCATTGCATCATACCATGGTAACAGTTCATCACCAT
 CACCACCACCACCACCATCACCACCACCATGGACAACAAGCCTTGGGTAACCGGACCAGG
 CCAAGGTCTACAATTCTCAACGAATAGCTCCTCTACCCAAGATTCTATGGAGGTTGGC
 CACAGTCAACACTCCATGACATCCCTGTCTTCTCAACGACTTCTTCTCGACATCTTCC
 TCCTCTACTGGTAACCAAGGCAATCAGGCCTACCAGAATCGCCCAGTGGCTGCTAATACC
 TTGGACTTTGGACAGAATGGAGCTATGGACGTTAATTTGACCGTCTACTCCAATCCCCG
 CAAGAGACTGGCATAGCTGGACATCCAACATACCAATTTTCTGCTAATACAGGTCCTGCA
 CATTACATGACTGAAGGACATCTGACAATGAGGCAAGGGGCTGATAGAGAAGAGTCCCC
 ATGACAGGAGTTTGTGTGCAACAGAGTCCTGTAGCTAGCTCGTGA

Restriction Sites: NotI-NotI
ACCN: NM_130436
Insert Size: 2300 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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 may be unstable or toxic at high copy number in common E. coli strain. We recommend using a lower copy number E. coli strain, such as CopyCutter strain (<http://www.epibio.com/item.asp?ID=435>) for transformation and plasmid preparation. Please be aware that the DNA yield could be low. Additional aliquots of this clone can be ordered from OriGene.

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_130436.1](#), [NP_569120.1](#)

RefSeq Size: 6378 bp

RefSeq ORF: 2265 bp

Locus ID: 1859

UniProt ID: [Q13627](#)

Cytogenetics: 21q22.13

Domains: pkinase, TyrKc, S_TKc

Protein Families: Druggable Genome, Protein Kinase

Gene Summary:

This gene encodes a member of the Dual-specificity tyrosine phosphorylation-regulated kinase (DYRK) family. This member contains a nuclear targeting signal sequence, a protein kinase domain, a leucine zipper motif, and a highly conservative 13-consecutive-histidine repeat. It catalyzes its autophosphorylation on serine/threonine and tyrosine residues. It may play a significant role in a signaling pathway regulating cell proliferation and may be involved in brain development. This gene is a homolog of *Drosophila* *mnb* (minibrain) gene and rat *Dyrk* gene. It is localized in the Down syndrome critical region of chromosome 21, and is considered to be a strong candidate gene for learning defects associated with Down syndrome. Alternative splicing of this gene generates several transcript variants differing from each other either in the 5' UTR or in the 3' coding region. These variants encode at least five different isoforms. [provided by RefSeq, Jul 2008]

Transcript Variant: This variant (2) is alternatively spliced in the 5' UTR and in an internal region of the coding sequence, as compared to variant 1. It encodes a 9 aa shorter isoform which has identical N- and C-termini to those of isoform 1.