

Product datasheet for **RG212584**

DYRK1A (NM_001396) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	DYRK1A (NM_001396) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	DYRK1A
Synonyms:	DYRK; DYRK1; HP86; MNB; MNBH; MRD7
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG212584 representing NM_001396
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTGCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGCATACAGGAGAGACTTCAGCATGCAAACCTTCATCTGTTCGGCTTGCACCGTCATTTTCATTCC
 ATGCTGCTGGCCTTCAGATGGCTGGACAGATGCCCCATTACATCAGTACAGTGACCGTCGCCAGCCAAA
 CATAAGTGACCAACAGGTTTCTGCCTTATCATATTCTGACCAGATTTCAGCAACCTCTAACTAACCAGGTG
 ATGCCTGATATTGTCATGTTACAGAGGCGGATGCCCAAACCTTCGTGACCCAGCAACTGCTCCCTGA
 GAAAACCTTCTGTTGACTTGATCAAACATACAAGCATATTAATGAGGTTTACTATGCAAAAAAGAAGCG
 AAGACACCAACAGGGCCAGGAGACGATTCTAGTCATAAGAAGGAACGGAAGGTTTACAATGATGGTTAT
 GATGATGATAACTATGATTATATTGTA AAAAACGGAGAAAAGTGGATGGATCGTTACGAAATTGACTCCT
 TGATAGGCAAAGGTTCCCTTTGGACAGGTTGTAAGGCATATGATCGTGTGGAGCAAGAATGGGTTGCCAT
 TAAAATAATAAGAACAAGAAGGCTTTTCTGAATCAAGCACAGATAGAAGTGCGACTTCTTGAGCTCATG
 AACAAACATGACTGAAATGAAATACTACATAGTGCATTTGAAACGCCACTTTATGTTTCGAAACCATC
 TCTGTTTAGTTTTGAAATGCTGTCCTACAACCTCTATGACTTGCTGAGAAACACCAATTTCCGAGGGGT
 CTCTTTGAACCTAACACGAAAGTTTGCGCAACAGATGTGCACTGCACTGCTTTTCTTTCGCGACTCCAGAA
 CTTAGTATCATTCACTGTGATCTAAAACCTGAAAATATCCTTCTTTGTAACCCCAAACGCAGTGCAATCA
 AGATAGTTGACTTTGGCAGTCTTGTGTCAGTTGGGGCAGAGGATATACCAGTATATTCAGAGTCGCTTTTA
 TCGGTCTCCAGAGGTGCTACTGGGAATGCCTTATGACCTTGCCATTGATATGTGGTCCCTCGGGTGATT
 TTGGTTGAAATGCACACTGGAGAACCTCTGTTTCAGTGGTCCCAATGAGGTAGATCAGATGAATAAAATAG
 TGGAAATTCTGGGTATCCACCTGCTCATATTCTTGACCAAGCACCAAAAGCAAGAAAGTTCTTTGAGAA
 GTTGCCAGATGGCACTTGGAACTTAAAGAAGACCAAAGATGGA AAAACGGGAGTACAAACCACCGAACC
 CGTAAACTTCATAACATTCTTGGAGTGGAAACAGGAGGACCTGGTGGGCGACGTGCTGGGGAGTCAGGTC
 ATACGGTCGCTGACTACTGAAAGTTCAAAGACCTCATTTTAAGGATGCTTGATTATGACCCAAAACCTCG
 AATTCAACCTTATTATGCTCTGCAGCACAGTTTCTTCAAGAAAACAGCTGATGAAGGTACAAATACAAGT
 AATAGTGTATCTACAAGCCCCGCCATGGAGCAGTCTCAGTCTTCGGGCACCACCTCCAGTACATCGTCAA
 GCTCAGGTGGCTCATCGGGACAAGCAACAGTGGGAGAGCCCGGTCGGATCCGACGCACCAGCATCGGCA
 CAGTGGTGGGCACTTACAGCTGCCGTGCAGGCCATGGACTGCGAGACACACAGTCCCAGGTGCGTCAG
 CAATTTCTGCTCCTCTTGGTTGGTCAGGCACTGAAGCTCCTACACAGGTCACTGTTGAAACTCATCCTG
 TTCAAGAAAACAACCTTTTCATGTAGCCCTCAACAGAATGCATTGCATCATCACCATGGTAACAGTCCCA
 TCACCATCACCACCACCACCACCATCACCACCACCATGGACAACAAGCCTTGGGTAACCGGACCAGGCCA
 AGGGTCTACAATTCTCCAACGAATAGCTCCTCTACCCAAGATTCTATGGAGGTTGGCCACAGTCAACACT
 CCATGACATCCCTGTCTTCTCAACGACTTCTTCTCGACATCTTCTCCTCTACTGGTAACCAAGGCAA
 TCAGGCCATACCAGAATCGCCAGTGGCTGCTAATACCTTGGACTTTGGACAGAATGGAGCTATGGACGTT
 AATTTGACCGTCTACTCCAATCCCCGCCAAGAGACTGGCATAGCTGGACATCCAACATACCAATTTTCTG
 CTAATACAGGTCTGCACATTACATGACTGAAGGACATCTGACAATGAGGCAAGGGGCTGATAGAGAAGA
 GTCCCCATGACAGGAGTTTGTGTGCAACAGAGTCTGTAGCTAGCTCG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >RG212584 representing NM_001396
 Red=Cloning site Green=Tags(s)

MHTGGETSACKPSSVRLAPSFHAAGLQMAQMPHSHQYSDRRQPNISDQQVSALSYSDQIQQPLTNQV
 MPDIVMLQRRMPQTFRDPATAPLRKLSVDLIKTYKHINEVYAKKKRRHQGGDDSSHKKERKVYNDGY
 DDDNYDYIVKNGEKWMDRYEIDSLIGKGSFGQVVKAYDRVEQEWAIAIKIKNKAFLNQAQIEVRLLLELM
 NKHDTEMKYYIVHLKRHFMRNHLCLVFEMLSYNLYDLLRNTNFRGVSLNLTRKFAQQMCTALLFLATPE
 LSIHCDLKPENILL CNPKRSAIKIVDFGSSCQLGQRIYQYIQSRFYRSPEVLLGMPYDLAIDMWSLGCIL
 L VEMHTGEPLFSGANEVDQMNKIVEVLGIPPAHILDQAPKARKFFFEKLPDGTWNLKTKDKGREYKPPGT
 RKLHNLGVETGGPGRRRAGESGHTVADYLKFKDLILRMLDYDPKTRIQPYALQHSFFKKTADEGTNTS
 NSVSTSPAMEQSQSSGTTSSSSSSGGSSGTSNSGRARSDPTHQHRHSGGHFTAAVQAMDCETHSPQVRQ
 QFPAPLWGSGETEAPTQVTVETHPVQETTFHVAPQQNALHHHHGNSHHHHHHHHHHHHHGGQALGNRTRP
 R VYNSPTNSSSTQDSMEVGHSHHSMTLSSTTSSSTSSSTGNQGNQAYQNRPAANTLDFGQNGAMDV
 NLTVYSNPRQETGIAGHPTYQFSANTGPAHYMTEGHLTMRQGDREESPMTGVCVQQSPVASS

TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



ACCN: NM_001396

ORF Size: 2289 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 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_001396.4](#)

RefSeq Size: 5010 bp

RefSeq ORF: 2292 bp

Locus ID: 1859

UniProt ID: [Q13627](#)

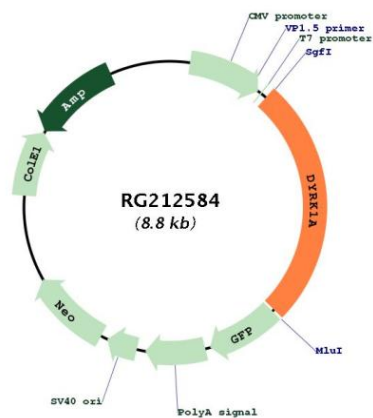
Cytogenetics: 21q22.13

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]

Product images:

Circular map for RG212584