

Product datasheet for **MG221964**

Tpx2 (NM_028109) Mouse Tagged ORF Clone

Product data:

| | |
|---------------------------|---|
| Product Type: | Expression Plasmids |
| Product Name: | Tpx2 (NM_028109) Mouse Tagged ORF Clone |
| Tag: | TurboGFP |
| Symbol: | Tpx2 |
| Synonyms: | 2610005B21Rik; DIL2; p100; REPP86 |
| Mammalian Cell Selection: | Neomycin |
| Vector: | pCMV6-AC-GFP (PS100010) |
| E. coli Selection: | Ampicillin (100 ug/mL) |



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ORF Nucleotide Sequence:

>MG221964 representing NM_028109
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGTCACAAGTCCCTACTACTTACTCTTTTCGATGCCCCACCGACTTTATCAATTTTTCATCTTTGGATG
 CTGAAGAGGATACTGAAAATATAGACTCATGGTTTGATGAGAAGGCCAACTTGGAGAACAAGTTTCTTCG
 ACAGAGGGGAATAGGCGAGCCTTTTCAGGGGAAGAATTCCTTGAGAAAAGCCAACTTCAACAGGGCTTC
 GTCACACCGTTGAAGGCAGTTGACAACACTTACCACAAAGAGACAGAAAAGGAAAATCTTCAGAAACAGT
 CTATCCCATCAAATGATTGTTCTCCCTGGATGCTAAGAGAGCTGTATCAGGAAATACTCTGTCCAGCC
 TCAGAGAAGATCTATTAGACTCTCTGCTCAGAAGGATTTGGAGCAGAAAGAGAAAACCATGTTGCCTCT
 GTTGAAATGAAAGCCAAGAGATGTGTTGCTCCGGCCACTGATTGTCCCCCAGAAAAGAATGAAAGTTT
 CTGATAAAAAGAACTGGAGGAAGAGGAGGAAGGCAGTGTCCAGCTACTTCAAGAAAGAATGAAAGAGA
 AACCTTGAGAAAAGCCAAGGGCAAGCACACTGTGCCAGGTGTGCCACCTGCAAGGGAGAAGTTCTAAAG
 AGTACTGAGGAGCAGGAGATAGAGAAAAGGCTGCGGATGCAGCAGGAGGTGGTGGAGCTGCGCAGGAAAA
 ACGAAGAGTTCAAGAAGCTCGCGCTCGCAGGGCCAGGGCAACCTGTGAAGAAGTCCACGAGCCAGGTTAC
 CAAGACAGTTGACTTTCCTTCCCTCACAGATGAGCGAATCAAGCAACATCCCAAGAACCAGGAAGAGTAT
 AAGGAAGTGAAGTTCATGCTGAACTTCGGAAGCATTCTCCACGCTGCCCGAGGAACCAGAGGATGCA
 CTATCATTAAAGCCTTCAACCTGTCAAAGGGAAGAAAAGAACATTTGATGAAGCAGCTTCTACGTATGT
 GCCCATTGACAGCAGGTTGAAGCCTTCCACAACGAACCCCAATAGATACCATCTGAGGAACAAGAAG
 GACGAGAGCTTGTACCTCCTCAATCTGTGAACAAGATTGCACGAGACCCCGAGACCCCATACTGCAGA
 CCAAATATCGTACAAGGGCTGTGACTTGCAAAGTACTGCAGAGCAGGAGGCCGAGGAGCTTGAGAAAAC
 GCAACAATACAAATTCAAAGCACGGGAACCTGATCCTAGAAATTTTGAAGTGGCCCATCTTGCCCAAG
 AGAGCACCTGTTAAACCTCCTACTCAGCCTGTTGGTTTTGATTTGAAAATTGAGAAAAGCAATTCATGAGC
 GAGAGTCAAAGAAAAACAGAAGATGAACAATTTGAATTTCTAGACCTTGTCTACTAAGATCTT
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 CTCCTTTGATACCCGGGACAAAGAACGCCAGTTGCAGAAGGAGAAAAAATAAAAGAGATGCAGAAAGGG
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 GTCATCTTCCAAGAGCCCTTCGTTCCCAAGAAGGAGAAAAATCACTGGCTGAGAACCCTTCTGGTTCTC
 TAGTTCAGGAACCTTTTCAGCTGGCCACCAGAGGAGAGCCAAAGAGCGGCAGGAGCTGGAGAAGAAAAT
 GGCTGAAGTAGAGGCTGGAACTGCAGCAGTTGGAGGAAGTCAGGCAGCAGGAAGAGGAGCAGCAGAAG
 GAGGAGTTAGCCAGGCTCCGAAAGAAGTGGTGCACAAGGCAATCCAATACGGAAGTACGCAGCAGTGG
 AGGTGAAATCTAGCGAGCTGCCTCTGACTGTGCCGGTGTCTCCTAAGTTCTCCACTCGGTTCCAG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >MG221964 representing NM_028109
 Red=Cloning site Green=Tags(s)

MSQVPTTYSFDAPTDFFINFSSSLDAEEDTENIDSWFDEKANLENKFLRQRGIGEPFQGNLSLRKAKLQQGF
 VTPLKAVDNTYHKETEKENLQKQSIPSNDCSSLDKRAVSGNTPVQPQRRSIRLSAQKDLEQKEKNHVAS
 VEMKAKRCVAPATDCPPQKRMKVSDKKLEEEEGSAPATSRKNERETLEKAKGKHTVPGVPPAREKVLK
 STEEQEIEKRLRMQQEVVELRRKNEEFKKLALAGPGQPVKKSTSQVTKTVDFHFLTDERIKQHPKNQEEY
 KEVNFMSLELRKHSSTPARGTRGCTIIPFNL SKGKKRTFDEAASYVPIAQQQVEAFHKRTPNRYHLRNKK
 DESLLPSKSVNKIARDPQTPILQTKYRTRAVTCKSTAEQEAEELEKLQQYKFKARELDPRIFESGPILPK
 RAPVKPPTQPVGFDLEIEKRIHERESKKKTEDEQFEFHSRPCPTKILEDVVGVEPKKVIPATVPKSPVFA
 LKNRIRVPIKDEEEKPVVIAKQPVPHYGVYPKPHIAEARNVEVCPFSFDTRDKERQLQKEKKIKEMQKG
 EVPKFKALVPVPHFDINLPEKKVKNVTQAEFSLQETDKRGAYKAEMWKHQLQEEQKQKDAACFKARPNT
 VIFQEPFVPKKEKSLAENPSGSLVQEPFQLATERRAKERQLEKKMAEVEAWKLQQLQEEVROQEEEQK
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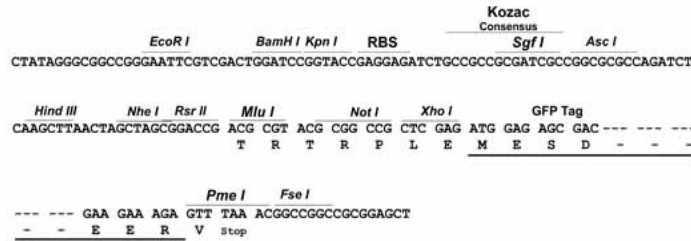
TRTRPLE - GFP Tag - V

Restriction Sites:

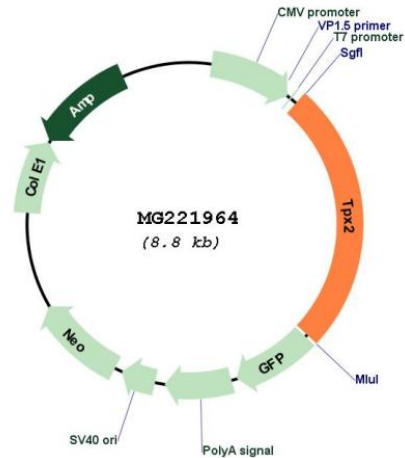
SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:



ACCN: NM_028109

ORF Size: 2235 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_028109.2](#)

RefSeq Size: 4352 bp

RefSeq ORF: 2238 bp

Locus ID: 72119

UniProt ID: [A2APB8](#)

Cytogenetics: 2 H1

Gene Summary: Spindle assembly factor required for normal assembly of mitotic spindles. Required for normal assembly of microtubules during apoptosis. Required for chromatin and/or kinetochore dependent microtubule nucleation. Mediates AURKA localization to spindle microtubules. Activates AURKA by promoting its autophosphorylation at 'Thr-288' and protects this residue against dephosphorylation. TPX2 is inactivated upon binding to importin-alpha. At the onset of mitosis, GOLGA2 interacts with importin-alpha, liberating TPX2 from importin-alpha, allowing TPX2 to activates AURKA kinase and stimulates local microtubule nucleation.[UniProtKB/Swiss-Prot Function]