

## Product datasheet for **MR221964**

### **Tpx2 (NM\_028109) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Tpx2 (NM_028109) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Tpx2
Synonyms:	2610005B21Rik; DIL2; p100; REPP86
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide  
Sequence:

>MR221964 ORF sequence  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGCATCGCC**

ATGTCACAAGTCCCTACTACTTACTCTTTTCGATGCCCCACCGACTTTATCAATTTTTCATCTTTGGATG  
CTGAAGAGGATACTGAAAATATAGACTCATGGTTTGATGAGAAGGCCAACTTGGAGAACAAGTTTCTTCG  
ACAGAGGGGAATAGGCGAGCCTTTTCAGGGGAAGAATTCCTTGAGAAAAGCCAACTTCAACAGGGCTTC  
GTCACACCGTTGAAGGCAGTTGACAACACTTACCACAAAGAGACAGAAAAGGAAAATCTTCAGAAACAGT  
CTATCCCATCAAATGATTGTTCTCCCTGGATGCTAAGAGAGCTGTATCAGGAAATACTCTGTCCAGCC  
TCAGAGAAGATCTATTAGACTCTCTGCTCAGAAGGATTTGGAGCAGAAAGAGAAAACCATGTTGCCTCT  
GTTGAAATGAAAGCCAAGAGATGTGTTGCTCCGGCCACTGATTGTCCCCCAGAAAAGAATGAAAGTTT  
CTGATAAAAAGAACTGGAGGAAGAGGAGGAAGGCAGTGTCCAGCTACTTCAAGAAAGAATGAAAGAGA  
AACCTTGAGAAAAGCCAAGGGCAAGCACACTGTGCCAGGTGTGCCACCTGCAAGGGAGAAGTTCTAAAG  
AGTACTGAGGAGCAGGAGATAGAGAAAAGGCTGCGGATGCAGCAGGAGGTGGTGGAGCTGCGCAGGAAAA  
ACGAAGAGTTCAAGAAGCTCGCGCTCGCAGGGCCAGGGCAACCTGTGAAGAAGTCCACGAGCCAGGTTAC  
CAAGACAGTTGACTTTCCTTCCCTCACAGATGAGCGAATCAAGCAACATCCCAAGAACCAGGAAGAGTAT  
AAGGAAGTGAAGTTCATGTCTGAACTTCGGAAGCATTCTCCACGCTGCCCGAGGAACCAGAGGATGCA  
CTATCATTAAAGCCTTCAACCTGTCAAAGGGAAGAAAAGAATTTGATGAAGCAGCTTCTACGTATGT  
GCCCATTGACAGCAGGTTGAAGCCTTCCACAACGAACCCCAATAGATACCATCTGAGGAACAAGAAG  
GACGAGAGCTTGTACCCTCAAATCTGTGAACAAGATTGCACGAGACCCCGAGACCCCATAGTGCAGA  
CCAAATATCGTACAAGGGCTGTGACTTGCAAAGTACTGCAGAGCAGGAGGCCGAGGAGCTTGAGAAAAT  
GCAACAATACAAATTCAAAGCACGGGAACCTTGATCCTAGAATTTTGAAGTGGCCCATCTTGCCCAAG  
AGAGCACCTGTTAAACCTCCTACTCAGCCTGTTGGTTTTGATTTGAAAATTGAGAAAAGCAATTCATGAGC  
GAGAGTCAAAGAAAAACAGAAGATGAACAATTTGAATTTCTAGACCTTGTCTACTAAGATCTT  
GGAAGATGTCGTGGGTGTTCTGAAAAGAAGGTAATTCAGTACTGTCCCGAAGTCGCCAGTTTTTGCA  
TTGAAGAACAGGATCCGAGTGCCCATCAAAGATGAGGAAGAGGAGAAACCAGTAGTGATAAAAGCTCAAC  
CTGTGCCACATTATGGGGTGCCTTATAAGCCCCACATCGCAGAGGCAAGAAATGTGGAGGTGTGCCCGTT  
CTCCTTTGATACCCGGGACAAAGAACGCCAGTTGCAGAAGGAGAAAAAATAAAAGAGATGCAGAAAGGG  
GAGGTGCCCAAGTCAAGGCACTTCTGTGCCCATTTTGACACCATTAACTGCCAGAGAAAAAGGTAA  
AGAACGTGACTCAAGCTGAGCCTTCTCCTGGAGACAGACAAGAGAGGCGCCTACAAGGCTGAGATGTG  
GAAGCACCAGCTGGAGGAAGAGCAGAAGCAGCAGAAGGACGCGCTTGCTTCAAGGCTCGTCCAAACACC  
GTCATCTTCCAAGAGCCCTTCGTTCCCAAGAAGGAGAAAAATCACTGGCTGAGAACCCTTCTGGTTCTC  
TAGTTCAGGAACCTTTTCAGCTGCCACCAGAGAGGAGGCCAAAGAGCGGCAGGAGCTGGAGAAGAAAAT  
GGCTGAAGTAGAGGCTGGAAACTGCAGCAGTTGGAGGAAGTCAGGCAGCAGGAAGAGGAGCAGCAGAAG  
GAGGAGTTAGCCAGGCTCCGAAAGAACTGGTGCACAAGGCAATCCAATACGGAAGTACGCAGCAGTGG  
AGGTGAAATCTAGCGAGCTGCCTCTGACTGTGCCGGTGTCTCCTAAGTTCTCCACTCGGTTCCAG

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >MR221964 protein sequence  
Red=Cloning site Green=Tags(s)

```
MSQVPTTYSFDAPTDFFINFSSLDAAEEDTENIDSWFDEKANLENKFLRQRGIGEPFQGNLSLRKAKLQQGF
VTPLKAVDNTYHKETEKENLQKQSIPSNDCSSLDKRAVSGNTPVQPQRRSIRLSAQKDLEQKEKNHVAS
VEMKAKRCVAPATDCPPQKRMKVSDKKKLEEEEGSAPATSRKNERETLEKAKGKHTVPGVPPAREKVLK
STEEQEIEKRLRMQQEVVELRRKNEEFKKLALAGPGQPVKKSTSQVTKTVDFHFLTDERIKQHPKNQEEY
KEVNFMSSELRKHSSTPARGTRGCTIIPFNL.SKGKKRTFDEAASTYVPIAQQVEAFHKRTPNRYHLRNKK
DESLLPKSVNKIARDPQTPILQTKYRTRAVTCKSTAEQEAEELEKLQQYKFKARELDPRIFESGPILPK
RAPVKPPTQPVGFDLEIEKRIHERESKKKTEDEQFEFHSRPCPTKILEDVVGVPEKKVIPATVPKSPVFA
LKNRIRVPIKDEEEKPVVIAKQPVPHYGVYPKPHIAEARNVEVCPFSFDTRDKERQLQKEKKIKEMQKG
EVPKFKALVPHFDITINLPEKKVKNVTQAEFSLQETDKRGAYKAEMWKHQLQEEQKQKDAACFKARPNT
VIFQEPFVPKKEKSLAENPSGSLVQEPFLATERRAKERQELEKKMAEVEAWKLQQLLEEVROQEEEQK
EELARLRKELVHKANPIRKYAAVEVKSSSELPLTPVSPKFSTRFQ
```

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



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

**ACCN:** NM\_028109

**ORF Size:** 2238 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

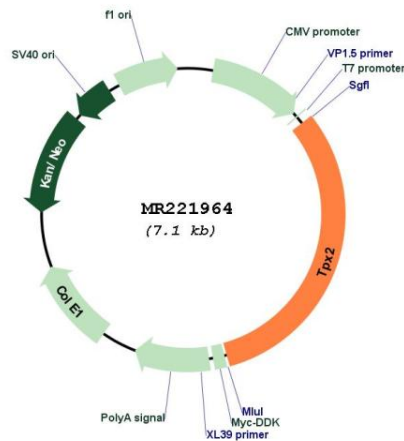
**UniProt ID:** [A2APB8](#)

**Cytogenetics:** 2 H1

**MW:** 85.9 kDa

**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]

## Product images:



Circular map for MR221964