

## Product datasheet for **MR222203**

### **Tpx2 (NM\_001141975) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Tpx2 (NM_001141975) 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:**

>MR222203 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  
 CTATCATTAAAGCCTTCAACCTGTCAAAGGGAAGAAAAGAACATTTGATGAAGCAGCTTCTACGTATGT  
 GCCATTGCACAGCAGGTTGAAGCCTTCCACAACGAACCCCAATAGATACCATCTGAGGAACAAGAAG  
 GACGAGAGCTTGTACCCTCAAATCTGTGAACAAGATTGCACGAGACCCCGAGACCCCATAGTGCAGA  
 CCAAATATCGTACAAGGGCTGTGACTTGCAAAGTACTGCAGAGCAGGAGGCCGAGGAGCTTGAGAAAAC  
 GCAACAATACAAATTCAAAGCACGGGAACCTTGATCCTAGAAATTTTGAAGTGGCCCATCTTGCCCAAG  
 AGAGCACCTGTTAAACCTCCTACTCAGCCTGTTGGTTTTGATTTGAAAATTGAGAAAAGCAATTCATGAGC  
 GAGAGTCAAAGAAAAACAGAAGATGAACAATTTGAATTTCTAGACCTTGTCTACTAAGATCTT  
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 TTGAAGAACAGGATCCGAGTGCCCATCAAAGATGAGGAAGAGGAGAAACCAGTAGTGATAAAAGCTCAAC  
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 CTCCTTTGATACCCGGGACAAAGAACGCCAGTTGCAGAAGGAGAAAAAATAAAAGAGATGCAGAAAGGG  
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 GAAGCACCAGCTGGAGGAAGAGCAGAAGCAGCAGAAGGACGCGCTTGGTTCAAGGCTCGTCCAAACACC  
 GTCATCTTCCAAGAGCCCTTCGTTCCCAAGAAGGAGAAAAATCACTGGCTGAGAACCCTTCTGGTTCTC  
 TAGTTCAGGAACCTTTTCAGCTGCCACCAGAGAGGAGGCAAGAGCGGCAGGAGCTGGAGAAGAAAAT  
 GGCTGAAGTAGAGGCTGGAAACTGCAGCAGTTGGAGGAAGTCAGGCAGCAGGAAGAGGAGCAGCAGAAG  
 GAGGAGTTAGCCAGGCTCCGAAAGAAGTGGTGCACAAGGCAATCCAATACGGAAGTACGCAGCAGTGG  
 AGGTGAAATCTAGCGAGCTGCCTCTGACTGTGCCGGTGTCTCCTAAGTTCTCCACTCGGTTCCAG

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >MR222203 protein sequence  
Red=Cloning site Green=Tags(s)

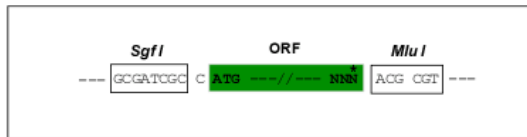
```
MSQVPTTYSFDAPTDFFINFSSSLDAEEDTENIDSWFDEKANLENKFLRQGI GEPFQGNLSLRKAKLQQGF
VTPLKAVDNTYHKETEKENLQKQSI PSNDCSSLDKRAVSGNTPVQPQRRSIRLSAQKDLEQKEKNHVAS
VEMKAKRCVAPATDCPPQKRMKVSDKKKLEEEEGSAPATSRKNERETLEKAKGKHTVPGVPPAREKVLK
STEEQEIEKRLRMQQEVVELRRKNEEFKKLALAGPGQPVKKSTSQVTKTVDFHFLTDERIKQHPKNQEEY
KEVNFMSSELRKHSSTPARGTRGCTI IKPFNL SKGKKRTFDEAASTYVPIAQQVEAFHKRTPNRYHLRNKK
DESLLPKSVNKIARDPQTPI LQTKYRTRAVTCKSTAEQEAELEKLQQYKFKARELDPRIFESGPILPK
RAPVKPPTQPVGFDLEIEKRIHERESKKKTEDEQFEFHSRPCPTKILEDVVGVPKEKVI PATVPKSPVFA
LKNRIRVPIKDEEEKPVV IKAQVPVHYGVPYKPHIAEARNVEVCPFSFDTRDKERQLQKEKKIKEMQKG
EVPKFKALVPVPHFD TINLPEKKVKNVTQAEPFSLETDKRGAYKAEMWKHQL EEEQKQKDAACFKARPNT
VIFQEPFVPKKEKSLAENPSGSLVQEPFQLATERRAKERQELEKKMAEVEAWKLQQL EEVROQEEEQK
EELARLRKELVHKANPIRKYAAEVKSSSELPLTPVSPKFSTRFQ
```

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\_001141975

**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\\_001141975.1](#), [NP\\_001135447.1](#)

**RefSeq Size:** 4161 bp

**RefSeq ORF:** 2238 bp

**Locus ID:** 72119

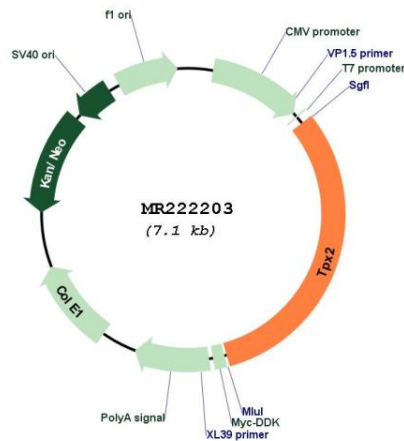
**UniProt ID:** [A2APB8](#)

**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 MR222203