abcam

ab252944

# Anti-TPX2 antibody [EPR23182-47]

Recombinant | RabMAb

## Key facts

| | |
|---|---|
| **Isotype** | IgG |
| **Host species** | Rabbit |
| **Storage buffer** | pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Immunogen** | The exact immunogen used to generate this antibody is proprietary information. |
| **Clone number** | EPR23182-47 |
| **Purification technique** | Affinity purification Protein A |
| **Concentration** | 0.478 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## WB

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/1000 |
| **Notes** | - |

| | |
|---|---|
| **Species** | Rat |

| | |
|---|---|
| **Dilution info** | 1/1000 |
| **Notes** | - |

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/1000 |
| **Notes** | - |

## ICC/IF

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/50 |
| **Notes** | - |

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/50 |
| **Notes** | - |

### Expected

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## Flow Cyt (Intra)

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/50 |
| **Notes** | - |

### Expected

| | |
|---|---|
| **Species** | Mouse, Rat |
| **Dilution info** | Use at an assay dependent concentration. |

| | |
|---|---|
| **Notes** | - |

## IHC-P

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/1000 |
| **Notes** | Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol. |

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | 1/1000 |
| **Notes** | Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol. |

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/1000 |
| **Notes** | Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol. |

## IP

### Not recommended

| | |
|---|---|
| **Species** | Human, Mouse, Rat |
| **Dilution info** | - |
| **Notes** | - |

# Target data

See full target information TPX2

| | |
|---|---|
| **Function** | 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 (PubMed:18663142, PubMed:19208764, PubMed:37728657). Activates AURKA by promoting its autophosphorylation at 'Thr-288' and protects this residue against dephosphorylation (PubMed:18663142, PubMed:19208764). TPX2 is inactivated upon binding to importin-alpha (PubMed:26165940). At the onset of mitosis, GOLGA2 interacts with importin- |

alpha, liberating TPX2 from importin-alpha, allowing TPX2 to activate AURKA kinase and stimulate local microtubule nucleation (PubMed:26165940).

## Storage

| | |
|---|---|
| **Shipped at conditions** | Conditional Ambient |
| **Appropriate short-term storage duration** | 1-2 weeks |
| **Appropriate short-term storage conditions** | +4°C |
| **Appropriate long-term storage conditions** | -20°C |
| **Aliquoting information** | Upon delivery aliquot |
| **Storage information** | Avoid freeze / thaw cycle |

## Notes

**Patented technology**
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

**What are the advantages of a recombinant monoclonal antibody?**
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

## Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

| | |
|---|---|
| **Activity summary** | The Targeting Protein for Xklp2 (TPX2) also known as Microtubule-Associated Protein Required for Spindle acts mechanically in the assembly of mitotic spindles. With a molecular mass of approximately 82 kDa TPX2 localizes to the nucleus in interphase and distributes along the spindle microtubules during mitosis. Its expression is high in actively dividing cells such as those found in developing tissues and proliferative zones. This association with microtubules positions TPX2 as a critical player in cell division. |

| | |
|---|---|
| **Biological function summary** | TPX2 contributes to the proper regulation and progression of mitosis. As part of the mitotic spindle apparatus TPX2 interacts with other spindle assembly factors to facilitate the nucleation and stabilization of microtubules. It orchestrates the proper arrangement of spindle poles ensuring accurate chromosome segregation. TPX2 operates within a complex that includes proteins such as Aurora A kinase which further accentuates its role in spindle dynamics and mitotic progression. |
| **Pathways** | TPX2 interacts intricately with the cell cycle and mitotic spindle checkpoint pathways. As an important regulator in these pathways it works alongside proteins like Aurora A kinase and Eg5 to control spindle formation and function which are necessary for the G2/M phase transition. These pathways ensure that cell division proceeds only when all chromosomal alignments and spindle assemblies meet the required fidelity underlining the importance of TPX2 in maintaining genomic stability. |
| **Associated diseases and disorders** | The overexpression of TPX2 often correlates with several types of cancer including breast and pancreatic cancers. Aberrant TPX2 levels disturb normal mitosis contributing to aneuploidy and tumor progression. Furthermore TPX2 overactivity can interact with oncogenic proteins such as MYC enhancing tumorigenic potential. Understanding TPX2's role in these diseases offers potential targets for therapeutic intervention making it an important subject of study in cancer research. |

## Product promise

**Tested**

We have tested this species and application combination and it works. It is covered by our product promise.

**Expected**

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

**Predicted**

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

**Not recommended**

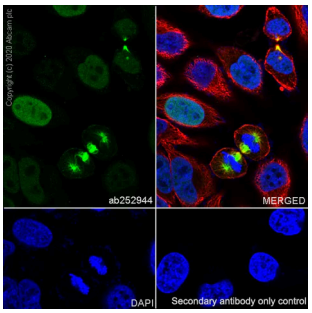
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

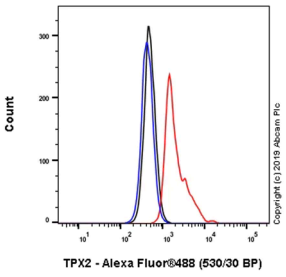
## 9 product images




### Immunocytochemistry/ Immunofluorescence - Anti-TPX2 antibody [EPR23182-47] (ab252944)

TPX2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-TPX2 antibody

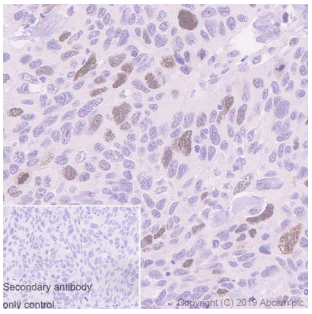
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa cells labeling TPX2 with ab252944 at 1/50 dilution, followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing positive staining in HeLa cells. ab195889 Anti-alpha Tubulin antibody (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The nuclear counterstain was DAPI (Blue).
Secondary antibody only control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution.




### Flow Cytometry (Intracellular) - Anti-TPX2 antibody [EPR23182-47] (ab252944)

TPX2 Flow Cytometry (Intracellular) staining using rabbit Anti-TPX2 antibody

Intracellular flow cytometric analysis of 80% methanol fixed 0.1% Tween-20 permeabilized HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling TPX2 with ab252944 at 1/50 (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.

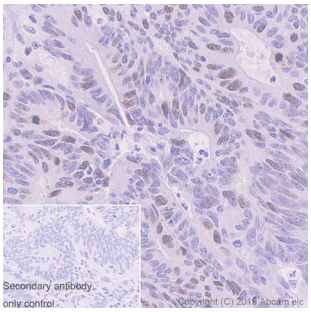



### Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TPX2 antibody [EPR23182-47] (ab252944)

TPX2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TPX2 antibody

Immunohistochemical analysis of paraffin-embedded human lung cancer tissue labeling TPX2 with ab252944 at 1/1000 followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Positive staining in proliferative cells of human lung cancer (PMID:23634259, 16489064). Counterstained with hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).



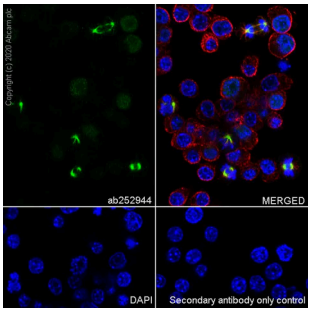

## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TPX2 antibody [EPR23182-47] (ab252944)

TPX2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TPX2 antibody

Immunohistochemical analysis of paraffin-embedded human colon cancer tissue labeling TPX2 with ab252944 at 1/1000 followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Positive staining in proliferative cells of human colon cancer (PMID:23634259, 22207630). Counterstained with hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).

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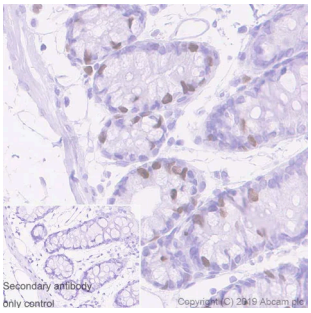



## Immunocytochemistry/ Immunofluorescence - Anti-TPX2 antibody [EPR23182-47] (ab252944)

TPX2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-TPX2 antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized RAW 264.7 cells labeling TPX2 with ab252944 at 1/50 dilution, followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing positive staining in RAW 264.7 cells. ab195889 Anti-alpha Tubulin antibody (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The nuclear counterstain was DAPI (Blue).
Secondary antibody only control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution.

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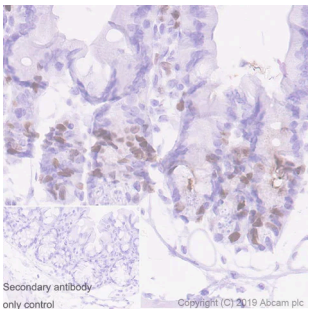

## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TPX2 antibody [EPR23182-47] (ab252944)

TPX2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TPX2 antibody

Immunohistochemical analysis of paraffin-embedded rat colon tissue labeling TPX2 with ab252944 at 1/1000 followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Positive staining in proliferative cells of rat colon (PMID:23634259). Counterstained with hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).

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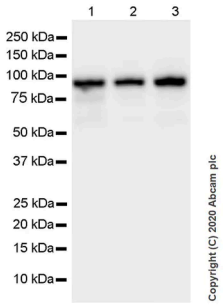

## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TPX2 antibody [EPR23182-47] (ab252944)

TPX2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TPX2 antibody

Immunohistochemical analysis of paraffin-embedded mouse colon tissue labeling TPX2 with ab252944 at 1/1000 followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Positive staining in proliferative cells of mouse colon (PMID:23634259). Counterstained with hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).




## Western blot - Anti-TPX2 antibody [EPR23182-47] (ab252944)

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
The molecular weight observed is consistent with what has been described in the literature (PMID:25239289, 16489064).

Lysates should be made freshly and used in WB immediately to minimize protein degradation.

Exposure time: 3 secs.

All lanes:
Western blot - Anti-TPX2 antibody [EPR23182-47] (ab252944) at 1/1000 dilution

Lane 1:
HeLa (human cervix adenocarcinoma epithelial cell ), whole cell lysate at 20 µg

Lane 2:
HEK-293 (human embryonic kidney epithelial cell), whole cell lysate at 20 µg

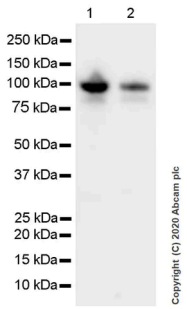
Lane 3:
Raji (human Burkitt's lymphoma B lymphocyte), whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Predicted band size: 86 kDa

Observed band size: 100 kDa




## Western blot - Anti-TPX2 antibody [EPR23182-47] (ab252944)

TPX2 Western blot staining using rabbit Anti-TPX2 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
The molecular weight observed is consistent with what has been described in the literature (PMID:25239289, 16489064).

The lower bands are mainly caused by degradation (PMID:16287863).

Lysates should be made freshly and used in WB immediately to minimize protein degradation.

Exposure time: 26 secs.

All lanes:
Western blot - Anti-TPX2 antibody [EPR23182-47] (ab252944) at 1/1000 dilution

Lane 1:
RAW264.7 (mouse Abelson murine leukemia virus-induced tumor macrophage), whole cell lysate at 20 µg

Lane 2:
L6 (rat skeletal muscle myoblast), whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Predicted band size: 86 kDa

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