abcam

ab288727

# Anti-Wee1 antibody [EPR25070-84]

Recombinant | RabMAb | 20ul selling size

## 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** | EPR25070-84 |
| **Purification technique** | Affinity purification Protein A |
| **Specificity** | This antibody is not suitable for use with samples from mouse in immunohistochemistry. |
| **Concentration** | 0.462 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## IP

### Not recommended

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

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

## WB

### Tested

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

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

### Not recommended

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | - |
| **Notes** | - |

## Flow Cyt (Intra)

### Tested

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

### Expected

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

### Not recommended

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

| | |
|---|---|
| **Dilution info** | - |
| **Notes** | - |

## IHC-P

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/100 |
| **Notes** | This antibody is not suitable for use with samples from mouse in immunohistochemistry. |

### Not recommended

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | - |
| **Notes** | This antibody is not suitable for use with samples from mouse in immunohistochemistry. |

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | - |
| **Notes** | This antibody is not suitable for use with samples from mouse in immunohistochemistry. |

# Target data

See full target information WEE1

| | |
|---|---|
| **Function** | Acts as a negative regulator of entry into mitosis (G2 to M transition) by protecting the nucleus from cytoplasmically activated cyclin B1-complexed CDK1 before the onset of mitosis by mediating phosphorylation of CDK1 on 'Tyr-15' (PubMed:15070733, PubMed:7743995, PubMed:8348613, PubMed:8428596). Specifically phosphorylates and inactivates cyclin B1-complexed CDK1 reaching a maximum during G2 phase and a minimum as cells enter M phase (PubMed:7743995, PubMed:8348613, PubMed:8428596). Phosphorylation of cyclin B1-CDK1 occurs exclusively on 'Tyr-15' and phosphorylation of monomeric CDK1 does not occur (PubMed:7743995, PubMed:8348613, PubMed:8428596). Its activity increases during S and G2 phases and decreases at M phase when it is hyperphosphorylated (PubMed:7743995). A correlated decrease in protein level occurs at M/G1 phase, probably due to its degradation (PubMed:7743995). |

## 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.

**Want a custom formulation?**
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

## Supplementary info

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

| | |
|---|---|
| **Activity summary** | Wee1 also known as Wee1-like protein kinase or WEE1 serves as an important regulator of cell cycle progression. Wee1 is a protein kinase with a molecular mass of approximately 96 kDa involved in the regulation of the cell cycle by inhibiting the entry into mitosis through phosphorylation of cyclin-dependent kinase 1 (CDK1). Expression of Wee1 occurs throughout various tissues but it is especially important in those that require tight control over cell division like the brain and reproductive organs. By suppressing premature mitosis Wee1 ensures cells have |

| | |
|---|---|
| | adequate time for DNA repair and completion of critical processes before cell division. |
| **Biological function summary** | The function of Wee1 extends to its role in maintaining genomic stability. Wee1 operates as part of a regulatory complex and its inhibition results in defective cell cycle arrest potentially leading to DNA damage. The kinase acts to prevent transitions from the G2 to M phase of the cell cycle ensuring cells repair damaged DNA before division. In the context of DNA replication stress Wee1 cooperates with other regulators such as Chk1 to mediate cell cycle arrest therefore safeguarding genomic integrity. |
| **Pathways** | The role of Wee1 manifests significantly within the DNA damage checkpoint pathway and the cell cycle control pathway. In the DNA damage checkpoint pathway Wee1 collaborates with other cell cycle regulators such as ATR and Chk1 to control the cell cycle in response to DNA damages. Wee1's influence on the cell cycle pathway also intersects with CDK1 and Cyclin B where Wee1 modulates the activity of these proteins to control cell cycle transitions. This regulatory action allows cells to coordinate DNA repair and replication with cell division events. |
| **Associated diseases and disorders** | Wee1's regulatory functions relate closely to cancer and neurological disorders. Overexpression or mutation of Wee1 is associated with various cancers including gliomas and breast cancer where it influences cell proliferation by controlling the activity of CDK1. Wee1's relationship with cancer extends to its interactions with p53 and Chk1 proteins both of which are critical in cancer biology. Additionally anomalies in Wee1 expression or function also associate with certain neurological disorders where it may alter cell cycle dynamics and influence neural cell fate under stress conditions. |

## 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**

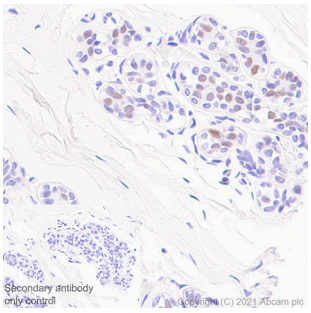
We do not recommend this combination. It is not covered by our product promise.

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.

## 7 product images

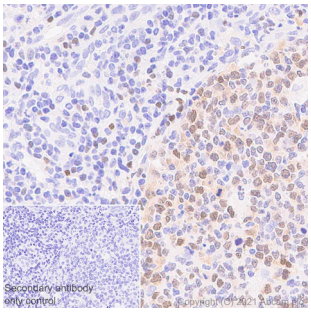



### Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Wee1 antibody [EPR25070-84] (ab288727)

Wee1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Wee1 antibody

Immunohistochemical analysis of paraffin-embedded Human breast tissue labelling Wee1 with ab288727 at 1/100(4.78ug/ml) dilution followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Nuclear staining on human breast. The section was incubated with ab288727 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins

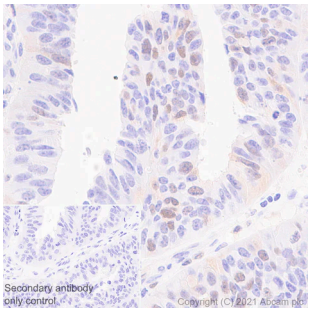



### Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Wee1 antibody [EPR25070-84] (ab288727)

Wee1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Wee1 antibody

Immunohistochemical analysis of paraffin-embedded Human tonsil tissue labelling Wee1 with ab288727 at 1/100(4.78ug/ml) dilution followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on human tonsil. The section was incubated with ab288727 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins

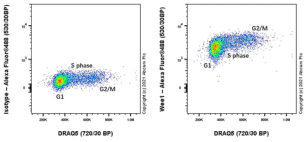



### Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Wee1 antibody [EPR25070-84] (ab288727)

Wee1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Wee1 antibody

Immunohistochemical analysis of paraffin-embedded Human ovarian cancer tissue labelling Wee1 with ab288727 at 1/100 followed by a ready to use LeicaDS9800 (Bond☒, Polymer Refine Detection) was used. Nuclear staining on human ovarian cancer. The section was incubated with ab288727 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond☒, Polymer Refine Detection) was used.

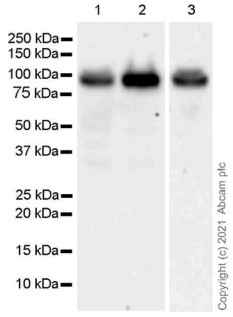
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



## Flow Cytometry (Intracellular) - Anti-Wee1 antibody [EPR25070-84] (ab288727)

Wee1 Flow Cytometry (Intracellular) staining using rabbit Anti-Wee1 antibody

Flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol-permeabilized HeLa (human cervix adenocarcinoma epithelial cell) cells labelling Wee1 with ab288727 at 1/50 dilution (Right) compared with a Rabbit monoclonal IgG (ab172730) (Left) isotype control. A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody. Cells were co-stained with DRAQ5 to differentiate cell cycle phase.




## Western blot - Anti-Wee1 antibody [EPR25070-84] (ab288727)

Wee1 Western blot staining using rabbit Anti-Wee1 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST
This blot was developed using a higher sensitivity ECL substrate.

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

Exposure time:

Lanes 1-2: 81 seconds.

Lane 3: 3 minutes

All lanes:
Western blot - Anti-Wee1 antibody [EPR25070-84] (ab288727) at 1/5000 dilution

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

Lane 2:
Raji (human Burkitts lymphoma B lymphocyte), whole cell lysate at 20 µg

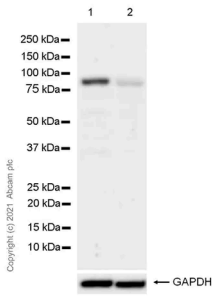
Lane 3:
HEK-293T (human embryonic kidney epithelial cell), whole cell lysate at 20 µg

Secondary

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

Predicted band size: 72 kDa

Observed band size: 94 kDa




## Western blot - Anti-Wee1 antibody [EPR25070-84] (ab288727)

Wee1 Western blot staining using rabbit Anti-Wee1 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST
Geldanamycin treatment decreased the expression of Wee1 (PMID: 18504430)

All lanes:
Western blot - Anti-Wee1 antibody [EPR25070-84] (ab288727) at 1/1000 dilution

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

Lane 2:
HeLa treated with 1µM Geldanamycin for 48 hours at 20 µg

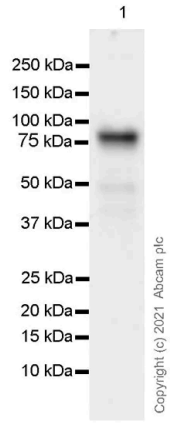
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 72 kDa

Observed band size: 94 kDa

Exposure time: 70s




## Western blot - Anti-Wee1 antibody [EPR25070-84] (ab288727)

Wee1 Western blot staining of NIH/3T3 (mouse embryonic fibroblast), whole cell lysate using rabbit Anti-Wee1 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST
Lysates should be made freshly and used in WB immediately to minimize protein degradation.

All lanes:
Western blot - Anti-Wee1 antibody [EPR25070-84] (ab288727) at 1/1000 dilution

All lanes:
NIH/3T3 (mouse embryonic fibroblast), whole cell lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 72 kDa

Observed band size: 94 kDa

Exposure time: 10s

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