abcam

**ab2772**

# Anti-Prolactin Receptor/PRL-R antibody [U5]

## Key facts

| | |
|---|---|
| **Isotype** | IgG1 |
| **Host species** | Mouse |
| **Storage buffer** | Preservative: 0.05% Sodium azide Constituents: PBS |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Clone number** | U5 |
| **Purification technique** | Affinity purification Protein G |
| **Specificity** | Detects prolactin (PRL) receptor. |
| **Epitope** | This antibody has been shown to react with the extracellular portion of the receptor, but not in the ligand binding domain. |
| **Concentration** | 1 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## IP

### Expected

| | |
|---|---|
| **Species** | Rat, Pig, Human, Horse, Sheep, Rabbit |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Primates |
| **Dilution info** | - |
| **Notes** | - |

## Flow Cyt

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 2 µg for $10^6$ Cells |
| **Notes** | ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody. |

### Expected

| | |
|---|---|
| **Species** | Horse, Rat, Pig, Rabbit, Sheep |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Primates |
| **Dilution info** | - |
| **Notes** | - |

## WB

### Expected

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

| | |
|---|---|
| **Notes** | This antibody detects an ~40 kDa protein and an ~100 kDa protein representing both the short and long forms of the PRL receptor, respectively, in various tissues. ab2772, after biotinylation, has been used to detect Human lymphocyte PRL receptor by FACS. ab2772 does not inhibit the interaction of prolactin with the receptor. |

| | |
|---|---|
| **Species** | Pig |
| **Dilution info** | - |
| **Notes** | This antibody detects an ~40 kDa protein and an ~100 kDa protein representing both the short and long forms of the PRL receptor, respectively, in various tissues. ab2772, after biotinylation, has been used to detect Human lymphocyte PRL receptor by FACS. ab2772 does not inhibit the interaction of prolactin with the receptor. |

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | This antibody detects an ~40 kDa protein and an ~100 kDa protein representing both the short and long forms of the PRL receptor, respectively, in various tissues. ab2772, after biotinylation, has been used to detect Human lymphocyte PRL receptor by FACS. ab2772 does not inhibit the interaction of prolactin with the receptor. |

| | |
|---|---|
| **Species** | Horse |
| **Dilution info** | - |
| **Notes** | This antibody detects an ~40 kDa protein and an ~100 kDa protein representing both the short and long forms of the PRL receptor, respectively, in various tissues. ab2772, after biotinylation, has been used to detect Human lymphocyte PRL receptor by FACS. ab2772 does not inhibit the interaction of prolactin with the receptor. |

| | |
|---|---|
| **Species** | Sheep |
| **Dilution info** | - |
| **Notes** | This antibody detects an ~40 kDa protein and an ~100 kDa protein representing both the short and long forms of the PRL receptor, respectively, in various tissues. ab2772, after biotinylation, has been used to detect Human lymphocyte PRL receptor by FACS. ab2772 does not inhibit the interaction of prolactin with the receptor. |

| | |
|---|---|
| **Species** | Rabbit |
| **Dilution info** | - |
| **Notes** | This antibody detects an ~40 kDa protein and an ~100 kDa protein representing both the short and long forms of the PRL receptor, respectively, in various tissues. ab2772, after biotinylation, has been used to detect Human lymphocyte PRL |

receptor by FACS. ab2772 does not inhibit the interaction of prolactin with the receptor.

### Predicted

| | |
|---|---|
| **Species** | Primates |
| **Dilution info** | - |
| **Notes** | - |

## IHC-P

### Tested

| | |
|---|---|
| **Species** | Horse |
| **Dilution info** | 1/50 - 1/100 |
| **Notes** | - |

### Expected

| | |
|---|---|
| **Species** | Human, Rat, Pig, Rabbit, Sheep |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Primates |
| **Dilution info** | - |
| **Notes** | - |

## ICC/IF

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/20 - 1/100 |
| **Notes** | - |

### Expected

| | |
|---|---|
| **Species** | Horse, Rat, Pig, Rabbit, Sheep |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Primates |
| **Dilution info** | - |
| **Notes** | - |

## FuncS (Neut/Block)

### Expected

| | |
|---|---|
| **Species** | Rat, Pig, Human, Horse, Sheep, Rabbit |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Primates |
| **Dilution info** | - |
| **Notes** | - |

## IHC-Fr

### Expected

| | |
|---|---|
| **Species** | Rat, Pig, Human, Horse, Sheep, Rabbit |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Primates |
| **Dilution info** | - |
| **Notes** | - |

## Target data

See full target information PRLR

| | |
|---|---|
| **Function** | This is a receptor for the anterior pituitary hormone prolactin (PRL). Acts as a prosurvival factor for spermatozoa by inhibiting sperm capacitation through suppression of SRC kinase activation and stimulation of AKT. Isoform 4 is unable to transduce prolactin signaling. Isoform 6 is unable to transduce prolactin signaling. |

## Storage

| | |
|---|---|
| **Shipped at conditions** | Blue Ice |
| **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 |

## Supplementary info

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

| | |
|---|---|
| **Activity summary** | Prolactin receptor (PRL-R) also known as PRL receptor is a protein that binds prolactin a hormone essential for lactation and various other biological processes. PRL-R is a member of the type I cytokine receptor family and is located on cell surfaces. It has several isoforms including the full form and the delta 2772 variant. The receptor weighs approximately 80 kDa and is widely expressed in tissues such as the mammary gland liver and immune cells. |
| **Biological function summary** | The prolactin receptor plays a significant role in regulating lactation reproductive and immunological functions. It binds prolactin to form a ligand-receptor complex initiating signal transduction pathways within cells. PRL-R is not part of a larger complex but instead activates intracellular signaling cascades leading to various |

| | |
|---|---|
| | cellular responses including growth and differentiation. This receptor is important for normal breast development and differentiation during pregnancy and lactation phases. |
| **Pathways** | PRL-R participates in the JAK2-STAT5 and PI3K-AKT pathways. These pathways are vital for mediating the biological effects of prolactin on cell division and survival. The JAK2-STAT5 pathway facilitates the transcription of genes involved in growth and proliferation while the PI3K-AKT pathway is important for metabolism and cell survival. PRL-R functionally interacts with proteins such as JAK2 which phosphorylates STAT5 propagating the signal initiated by receptor engagement. |
| **Associated diseases and disorders** | Prolactin receptor abnormalities can be tied to breast cancer and prolactinoma. Dysregulation of PRL-R through overexpression or mutations can lead to uncontrolled cell growth and contribute to cancer development particularly in breast tissue. Prolactinoma a pituitary gland tumor leads to excessive production of prolactin exacerbating PRL-R activity. In these contexts proteins like estrogen receptor in breast cancer and pituitary tumor transforming gene (PTTG) in prolactinoma may be intertwined with prolactin receptor-related disease processes. |

## 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**

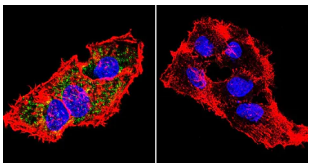
We do not recommend this combination. It is not covered by our product promise.

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.

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## 6 product images

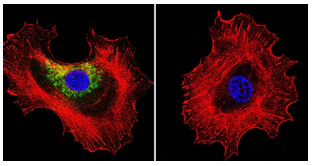


## Immunocytochemistry/ Immunofluorescence - Anti-Prolactin Receptor/PRL-R antibody [U5] (ab2772)

Prolactin Receptor/PRL-R Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Prolactin Receptor/PRL-R antibody

Immunocytochemistry/Immunofluorescence analysis of Prolactin Receptor/PRL-R shows staining in HepG2 cells. Prolactin Receptor/PRL-R (green), F-Actin staining with Phalloidin (red) and nuclei with DAPI (blue) is shown. Cells were grown on chamber slides and fixed with formaldehyde prior to staining. Cells were probed without (control) or with ab2772 (1:20) over night at 4°C, washed with PBS and incubated with a DyLight-488 conjugated secondary antibody. Images were taken at 60X magnification.

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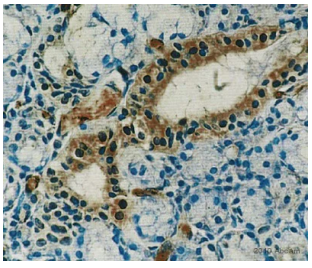


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Prolactin Receptor/PRL-R Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Prolactin Receptor/PRL-R antibody

Immunocytochemistry/Immunofluorescence analysis of Prolactin Receptor/PRL-R shows staining in MCF-7 cells. Prolactin Receptor/PRL-R (green), F-Actin staining with Phalloidin (red) and nuclei with DAPI (blue) is shown. Cells were grown on chamber slides and fixed with formaldehyde prior to staining. Cells were probed without (control) or with ab2772 (1:20) over night at 4°C, washed with PBS and incubated with a DyLight-488 conjugated secondary antibody. Images were taken at 60X magnification.

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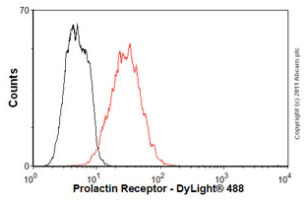
This image is courtesy of an anonymous customer review

## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Prolactin Receptor/PRL-R antibody [U5] (ab2772)

Prolactin Receptor/PRL-R Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-Prolactin Receptor/PRL-R antibody

ab2772 staining the Prolactin Receptor/PRL-R in Human salivary gland tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with paraformaldehyde and blocked with 10% serum for 1 hour at 20°C; antigen retrieval was not performed. Samples were incubated with primary antibody (1/100) for 12 hours at 4°C. A Biotin-conjugated Rabbit anti-mouse polyclonal (1/200) was used as the secondary antibody.

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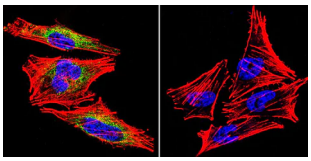



## Flow Cytometry - Anti-Prolactin Receptor/PRL-R antibody [U5] (ab2772)

Prolactin Receptor/PRL-R Flow Cytometry staining using mouse Anti-Prolactin Receptor/PRL-R antibody

Overlay histogram showing MCF-7 cells stained with ab2772 (red line). The cells were fixed with 80% methanol (5 min) and incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab2772, 2µg/1x$10^6$ cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x$10^6$ cells) used under the same conditions. Acquisition of >5,000 events was performed.

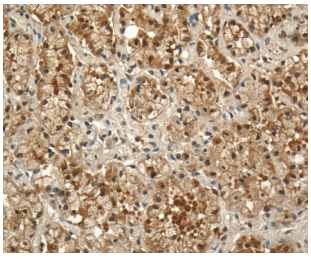
Please note that Abcam do not have any data for use of this antibody on non-fixed cells. We welcome any customer feedback.



## Immunocytochemistry/ Immunofluorescence - Anti-Prolactin Receptor/PRL-R antibody [U5] (ab2772)

Prolactin Receptor/PRL-R Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Prolactin Receptor/PRL-R antibody

Immunocytochemistry/Immunofluorescence analysis of Prolactin Receptor/PRL-R shows staining in A2058 cells. Prolactin Receptor/PRL-R (green), F-Actin staining with Phalloidin (red) and nuclei with DAPI (blue) is shown. Cells were grown on chamber slides and fixed with formaldehyde prior to staining. Cells were probed without (control) or with ab2772 (1:20) over night at 4°C, washed with PBS and incubated with a DyLight-488 conjugated secondary antibody. Images were taken at 60X magnification.



## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Prolactin Receptor/PRL-R antibody [U5] (ab2772)

Prolactin Receptor/PRL-R Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-Prolactin Receptor/PRL-R antibody

Mammary gland tissue from lactating light horse mare was incubated with ab2772 at 1:100 for 1 hour at 23°C and for 24 hours at 4°C. A biotin-conjugated goat anti-mouse IgG was used as the secondary antibody (23°C for 1 hour) .Development using avidin-biotin complex 23°C for 1 hour plus 3,3-diaminobenzadine for 15 min and counterstained with haematoxylin. Antigen retrieval was facilitated using steaming at 95°C for 20 min in Trizma® buffer (pH 10.0) . Blocking endogenous peroxidase performed with 0.3% H2O2 and MeOH (20 min at 23°C). To decrease non-specific staining, tissue was pre-incubated in normal goat serum for 30 min at 23°C.

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