

# Rhodopsin Monoclonal Antibody (1D4)

| Product Details    |  |
|--------------------|--|
| Size               | 100 µL                                       |
| Species Reactivity | Bovine, Human, Mouse, Rat                    |
| Published Species  | Rat, Non-human primate, Bovine, Human, Mouse |
| Host/Isotype       | Mouse / IgG1                                 |
| Class              | Monoclonal                                   |
| Type               | Antibody                                     |
| Clone              | 1D4  |
| Conjugate          | Unconjugated                                 |
| Immunogen          | Bovine rhodopsin.                            |
| Form               | Liquid                                       |
| Concentration      | 1 mg/mL                                      |
| Purification       | Protein G                                    |
| Storage buffer     | PBS with 1mg/mL BSA                          |
| Contains           | 0.05% sodium azide                           |
| Storage conditions | -20° C, Avoid Freeze/Thaw Cycles             |
| RRID               | AB_325050                                    |

| Applications                              | Tested Dilution | Publications    |
|---|-----------------|-----------------|
| Western Blot (WB)                         | 1:100-1:1,000   | 11 Publications |
| Immunohistochemistry (IHC)                | -               | 5 Publications  |
| Immunohistochemistry (Paraffin) (IHC (P)) | 1:100-1:1,000   | -               |
| Immunocytochemistry (ICC/IF)              | 1:1,000         | 3 Publications  |
| ELISA (ELISA)                             | -               | 1 Publication   |
| Immunoprecipitation (IP)                  | Assay-dependent | 2 Publications  |
| Dot blot (DB)                             | -               | 1 Publication   |
| Affinity Purification (AP)                | -               | 1 Publication   |

## Product Specific Information

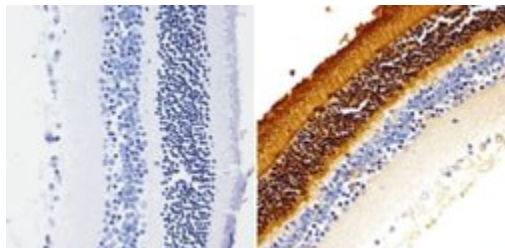
MA1-722 detects rhodopsin from human, mouse and bovine retinal samples. Clone 1D4 has also been used successfully in Zebrafish. It does not recognize rhodopsin in zebrafish rods, but instead labels long double cone outer segments that express red opsin (Yin, J. et al, 2012).

MA1-722 has been successfully used in Western blot, IHC (P), immunocytochemistry and immunoprecipitation procedures. By Western blot, this antibody detects an ~40 kDa protein representing rhodopsin from Sf9 cells expressing the bovine gene. Immunocytochemical staining of rhodopsin in human retinal samples results in staining of both rod and cone outer segments.

The MA1-722 immunogen is bovine rhodopsin. The epitope for this antibody has been localized to the C-terminal nine amino acids of bovine rhodopsin known as the 1D4 epitope.

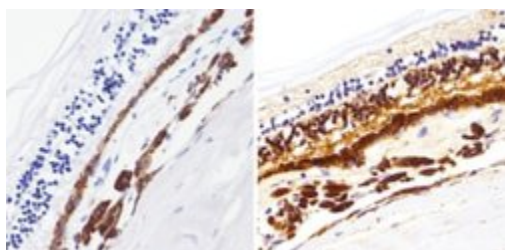
## Product Images For Rhodopsin Monoclonal Antibody (1D4)

### Rhodopsin Antibody (MA1-722) in IHC (P)



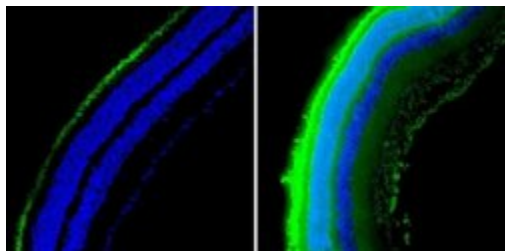
Immunohistochemistry analysis of Rhodopsin showing staining in the nucleus of paraffin-embedded mouse retinal tissue (right) compared to a negative control without primary antibody (left). To expose target proteins, antigen retrieval was performed using 10mM sodium citrate (pH 6.0), microwaved for 8-15 min. Following antigen retrieval, tissues were blocked in 3% H<sub>2</sub>O<sub>2</sub>-methanol for 15 min at room temperature, washed with ddH<sub>2</sub>O and PBS, and then probed with a Rhodopsin monoclonal antibody (Product # MA1-722) diluted in 3% BSA-PBS at a dilution of 1:1000 overnight at 4°C in a humidified chamber. Tissues were washed extensively in PBST and detection was performed using an HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.

### Rhodopsin Antibody (MA1-722) in IHC (P)



Immunohistochemistry analysis of Rhodopsin showing staining in the nucleus of paraffin-embedded human retinal tissue (right) compared to a negative control without primary antibody (left). To expose target proteins, antigen retrieval was performed using 10mM sodium citrate (pH 6.0), microwaved for 8-15 min. Following antigen retrieval, tissues were blocked in 3% H<sub>2</sub>O<sub>2</sub>-methanol for 15 min at room temperature, washed with ddH<sub>2</sub>O and PBS, and then probed with a Rhodopsin monoclonal antibody (Product # MA1-722) diluted in 3% BSA-PBS at a dilution of 1:200 overnight at 4°C in a humidified chamber. Tissues were washed extensively in PBST and detection was performed using an HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.

### Rhodopsin Antibody (MA1-722) in IHC (P)



Immunofluorescent analysis of Rhodopsin (green) showing staining in mouse retinal tissue (right) compared to a negative control without primary antibody (left). Formalin-fixed tissue was permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Tissue was probed with a Rhodopsin monoclonal antibody (Product # MA1-722) in 3% BSA-PBS at a dilution of 1:50 and incubated overnight at 4°C in a humidified chamber. Tissue was washed with PBST and incubated with a DyLight-488 conjugated secondary antibody in PBS at room temperature in the dark. Nuclei were stained with DAPI (blue) and images were taken at a magnification of 20x.

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## Western Blot (11)

Journal of virology

### SARS-CoV-2 and Three Related Coronaviruses Utilize Multiple ACE2 Orthologs and Are Potently Blocked by an Improved ACE2-Ig.

"MA1-722 was used in Western Blotting to provide a promising approach to developing antiviral proteins broadly effective against these distinct coronaviruses."

Authors: Li Y,Wang H,Tang X,Fang S,Ma D,Du C,Wang Y,Pan H,Yao W,Zhang R,Zou X,Zheng J,Xu L,Farzan M,Zhong G

**Species**  
Human

**Dilution**  
Not Cited

**Year**  
2020

Investigative ophthalmology & visual science

### Role of Translational Attenuation in Inherited Retinal Degeneration.

"Published figure using Rhodopsin monoclonal antibody (Product # MA1-722) in Immunofluorescence"

Authors: Starr CR,Nyankerh CNA,Qi X,Hu Y,Gorbatyuk OS,Sonenberg N,Boulton ME,Gorbatyuk MS

**Species**  
Not Applicable

**Dilution**  
Not Cited

**Year**  
2019

[View more WB references on thermofisher.com](#)

## Immunohistochemistry (5)

Human molecular genetics

### Deletion of the Impg2 gene causes the degeneration of rod and cone cells in mice.

"MA1-722 was used in Immunohistochemistry to develop two independent Impg2 knockout (KO) mouse models using the CRISPR/Cas9 technique to assess the in vivo functions of Impg2 in the retina."

Authors: Xu H,Qu C,Gan L,Sun K,Tan J,Liu X,Jiang Z,Tian W,Liu W,Zhang S,Yang Y,Jiang L,Zhu X,Zhang L

**Species**  
Mouse

**Dilution**  
1:500

**Year**  
2020

Investigative ophthalmology & visual science

### Role of Translational Attenuation in Inherited Retinal Degeneration.

"Published figure using Rhodopsin monoclonal antibody (Product # MA1-722) in Immunofluorescence"

Authors: Starr CR,Nyankerh CNA,Qi X,Hu Y,Gorbatyuk OS,Sonenberg N,Boulton ME,Gorbatyuk MS

**Species**  
Not Applicable

**Dilution**  
Not Cited

**Year**  
2019

[View more IHC references on thermofisher.com](#)

## More applications with references on thermofisher.com

ICC/IF (3)

ELISA (1)

IP (2)

DB (1)

AP (1)

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