

# Product Datasheet

## Muscarinic Acetylcholine Receptor M4/CHRM4 Antibody - BSA Free NLS220

Unit Size: 0.05 ml

Keep as concentrated solution. Aliquot and store at -20C or below. Avoid multiple freeze-thaw cycles.

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**NLS220****Muscarinic Acetylcholine Receptor M4/CHRM4 Antibody - BSA Free**

| <b>Product Information</b> |   |
|----------------------------|---|
| <b>Unit Size</b>           | 0.05 ml   |
| <b>Concentration</b>       | 1.0 mg/ml   |
| <b>Storage</b>             | Keep as concentrated solution. Aliquot and store at -20C or below. Avoid multiple freeze-thaw cycles. |
| <b>Clonality</b>           | Polyclonal  |
| <b>Preservative</b>        | 0.1% Sodium Azide   |
| <b>Isotype</b>             | IgG   |
| <b>Purity</b>              | Immunogen affinity purified   |
| <b>Buffer</b>              | PBS   |

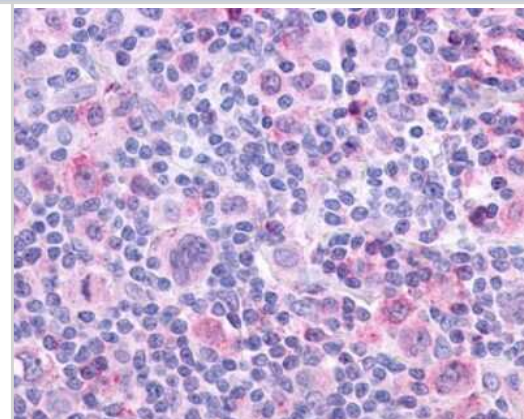
| <b>Product Description</b>     |  |
|--------------------------------|--|
| <b>Description</b>             | Product can be stored undiluted at 4C for up to 1 month.   |
| <b>Host</b>                    | Rabbit   |
| <b>Gene ID</b>                 | 1132   |
| <b>Gene Symbol</b>             | CHRM4  |
| <b>Species</b>                 | Human, Rat, Porcine, Bovine, Equine, Guinea Pig, Hamster   |
| <b>Reactivity Notes</b>        | Predicted cross-reactivity based on sequence identity: Gorilla (100%).   |
| <b>Specificity/Sensitivity</b> | Human CHRM4. BLAST analysis of the peptide immunogen showed no homology with other human proteins.               |
| <b>Immunogen</b>               | Synthetic 20 amino acid peptide from 3rd cytoplasmic domain of human Muscarinic Acetylcholine Receptor M4/CHRM4. |

| <b>Product Application Details</b> |   |
|------------------------------------|---|
| <b>Applications</b>                | Immunocytochemistry/Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin               |
| <b>Recommended Dilutions</b>       | Immunohistochemistry, Immunocytochemistry/Immunofluorescence, Immunohistochemistry-Paraffin 10 - 20 ug/ml |
| <b>Application Notes</b>           | Use in ICC/IF reported in scientific literature (PMID: 23212463).   |

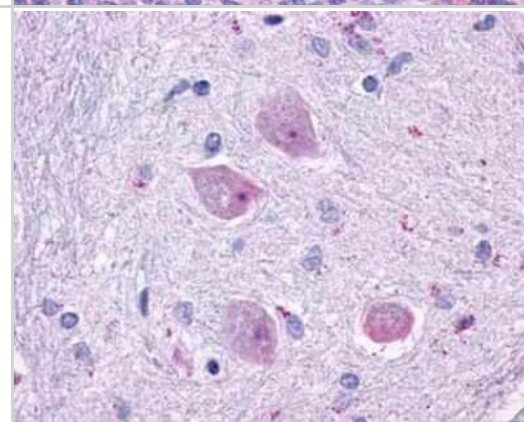


## Images

Immunohistochemistry-Paraffin: Muscarinic Acetylcholine Receptor M4/CHRM4 Antibody [NLS220] - Analysis of anti-CHRM4 / M4 antibody with human lymph node, Hodgkins lymphoma.



Immunohistochemistry-Paraffin: Muscarinic Acetylcholine Receptor M4/CHRM4 Antibody [NLS220] - Analysis of anti-CHRM4 / M4 antibody with human brain, neurons and glia.



## Publications

Fong G, Backman LJ, Andersson G et al. Human tenocytes are stimulated to proliferate by acetylcholine through an EGFR signalling pathway Cell Tissue Res 2012-12-05 [PMID: 23212463] (ICC/IF, Human)

## Procedures

### Immunohistochemistry Protocol for Muscarinic Acetylcholine Receptor M4 Antibody (NLS220)

Immunohistochemistry Protocol for Muscarinic Acetylcholine Receptor M4 Antibody (NLS220):

[https://www.novusbio.com/products/muscarinic-acetylcholine-receptor-m4-chrm4-antibody\\_nls220](https://www.novusbio.com/products/muscarinic-acetylcholine-receptor-m4-chrm4-antibody_nls220)

Immunohistochemistry

1. Prepare tissue with formalin fixation and by embedding it in paraffin wax.
2. Make 4 um sections and place on pre-cleaned and charged microscope slides.
3. Heat in a tissue-drying oven for 45 minutes @ 60 degrees Celcius.
4. Deparaffinize the tissues by wash drying the slides in 3 changes of xylene for 5 minutes each @ RT.
5. Rehydrate the tissues by washing the slides in 3 changes of 100% alcohol for 3 minutes each @ RT.
6. Wash the slides in 2 changes of 95% alcohol for 3 minutes each @ RT.
7. Wash the slides in 1 change of 80% alcohol for 3 minutes @ RT.
8. Rinse the slides in gentle running distilled water for 5 minutes @ RT.
9. Perform antigen retrieval by steaming the slides in 0.01M sodium citrate buffer (pH 6.0) @ 99-100 degrees Celcius for 20 minutes.
10. Remove the slides from the heat and let stand in buffer @ RT for 20 minutes.
11. Rinse the slides in 1X TBS-T for 1 minute @ RT.

**\*\*Do not allow the tissues to dry at any time during the staining procedure\*\***

12. Begin the immunostaining by applying a universal protein block for 20 minutes @ RT.
13. Drain protein block from the slides and apply the diluted primary antibody for 45 minutes @ RT.
14. Rinse the slide in 1X TBS-T for 1 minute @ RT.
15. Apply a biotinylated anti-rabbit IgG (H+L) secondary for 30 minutes @ RT.
16. Rinse the slide in 1X TBS-T for 1 minute @ RT.
17. Apply an alkaline phosphatase streptavidin for 30 minutes @ RT.
18. Rinse the slide in 1X TBS-T for 1 minute @ RT.
19. Apply an alkaline phosphatase chromagen substrate for 30 minutes @ RT.
20. Rinse the slide in distilled water for 1 minute @ RT.

**\*\*This method should only be used if the chromagen substrate is alcohol insoluble (ie: Vector Red, DAB)\*\***

21. Dehydrate the tissue by washing the slides in 2 changes of 80% alcohol for 1 minute each @ RT.
22. Wash the slides in 2 changes of 95% alcohol for 1 minute each @ RT.
23. Wash the slides in 3 changes of 100% alcohol for 1 minute each @ RT.
24. Wash the slides in 3 changes of xylene for 1 minute each @ RT.
25. Apply cover slip.





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### **Products Related to NLS220**

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|               |  |
|---------------|--|
| HAF008        | Goat anti-Rabbit IgG Secondary Antibody [HRP]                        |
| NB7160        | Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]                  |
| NBP2-24891    | Rabbit IgG Isotype Control   |
| H00001132-G01 | Recombinant Human Muscarinic Acetylcholine Receptor M4/CHRM4 Protein |

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### **Limitations**

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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