

# Product Datasheet

## NuMA Antibody - BSA Free

### NB500-174

Unit Size: 0.1 ml

Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.

[www.novusbio.com](http://www.novusbio.com)



[technical@novusbio.com](mailto:technical@novusbio.com)

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Updated 9/9/2025 v.20.1

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**NB500-174**

NuMA Antibody - BSA Free

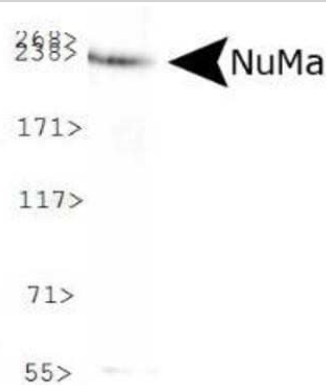
Product Information	
<b>Unit Size</b>	0.1 ml
<b>Concentration</b>	This product is unpurified. The exact concentration of antibody is not quantifiable.
<b>Storage</b>	Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.
<b>Clonality</b>	Polyclonal
<b>Preservative</b>	0.02% Sodium Azide
<b>Isotype</b>	IgG
<b>Purity</b>	Unpurified
<b>Buffer</b>	Whole antisera

Product Description	
<b>Description</b>	Novus Biologicals Rabbit NuMA Antibody - BSA Free (NB500-174) is a polyclonal antibody validated for use in IHC, WB, ICC/IF, Simple Western and IP. Anti-NuMA Antibody: Cited in 28 publications. All Novus Biologicals antibodies are covered by our 100% guarantee.
<b>Host</b>	Rabbit
<b>Gene ID</b>	4926
<b>Gene Symbol</b>	NUMA1
<b>Species</b>	Human, Mouse, Rat, Mammal, Marsupial, Primate
<b>Reactivity Notes</b>	Use in Marsupial reported in scientific literature (PMID:29185983).
<b>Immunogen</b>	Full-length recombinant human NuMA expressed in insect Sf9 cells using baculovirus expression system, then purified to near homogeneity prior to immunization.

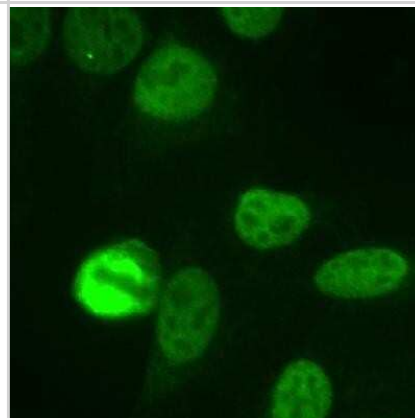
Product Application Details	
<b>Applications</b>	Western Blot, Simple Western, Immunohistochemistry-Paraffin, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunoprecipitation
<b>Recommended Dilutions</b>	Western Blot 1:1000, Simple Western 1:500, Immunohistochemistry 5 ug/ml, Immunocytochemistry/ Immunofluorescence 1:500, Immunoprecipitation 1:10-1:500, Immunohistochemistry-Paraffin 5 ug/ml, Immunohistochemistry-Frozen reported in scientific literature
<b>Application Notes</b>	In Western blot a band can be seen at 220 kDa.  In Simple Western only 10 - 15 uL of the recommended dilution is used per data point. See <a href="#">Simple Western Antibody Database</a> for Simple Western validation: Tested in HeLa lysate 0.2 mg/mL, separated by Size, antibody dilution of 1:500. Separated by Size-Wes, Sally Sue/Peggy Sue.

## Images

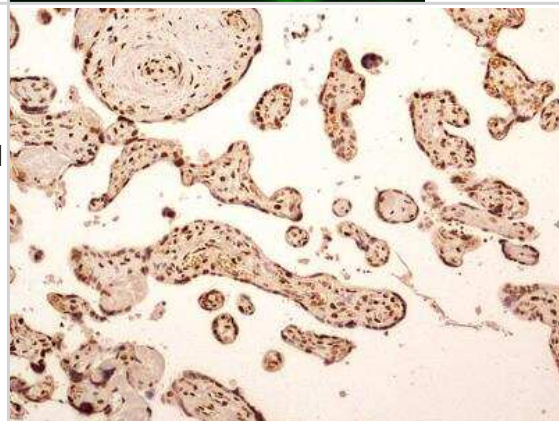
Western Blot: NuMA Antibody [NB500-174] - Analysis of NuMA expression in Cos7 whole cell lysate.



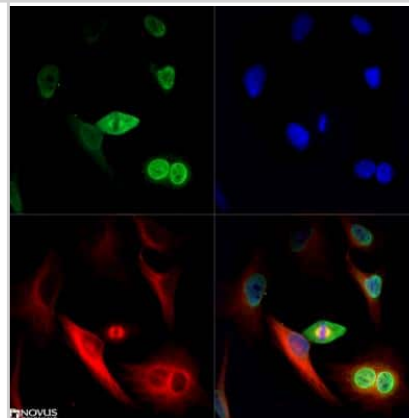
Immunocytochemistry/Immunofluorescence: NuMA Antibody [NB500-174] - Human HeLa cells fixed with 3.5% formaldehyde and stained with NB500-174 at 1:1000. The staining pattern shows the typical pattern for NuMA in the cell nucleus during interphase and on spindles during mitosis.



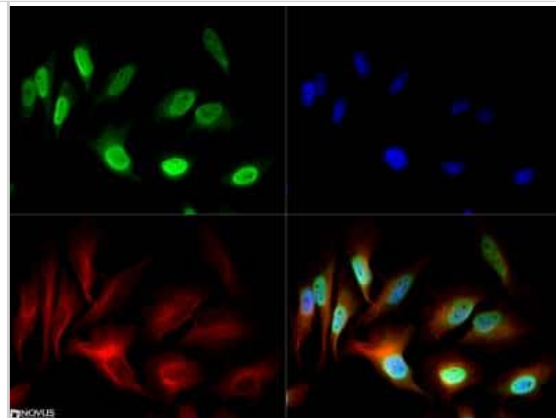
Immunohistochemistry-Paraffin: NuMA Antibody [NB500-174] - Analysis of FFPE tissue section of human placenta using rabbit polyclonal NuMA antibody (NB500-174) at 5 ug/mL. Strong nuclear with moderate cytoplasmic immuno-reactivity of NuMA was observed in syncytiotrophoblast, cytotrophoblasts, Hofbauer cells and the endothelial cells of chorionic villi capillaries. 10X Magnification.



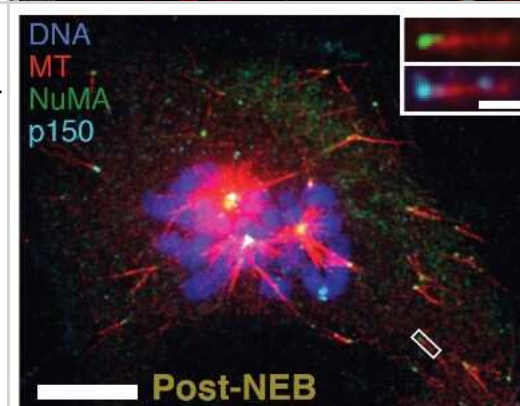
Immunocytochemistry/Immunofluorescence: NuMA Antibody [NB500-174] - NuMA antibody was tested in HeLa cells with DyLight 488 (green). Nuclei and alpha-tubulin were counterstained with DAPI (blue) and DyLight 550 (red).



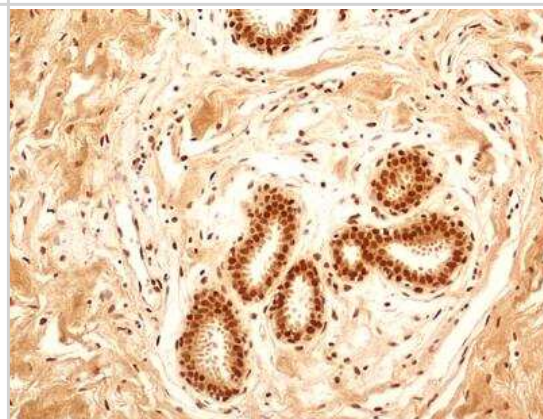
Immunocytochemistry/Immunofluorescence: NuMA Antibody [NB500-174] - NuMA antibody was tested in HeLa cells with DyLight 488 (green). Nuclei and alpha-tubulin were counterstained with DAPI (blue) and DyLight 550 (red).



Immunocytochemistry/Immunofluorescence: NuMA Antibody [NB500-174] - Dynactin and NuMA display specific, steady-state binding at mitotic minus-ends. See also Figure 1-figure supplement 1 and Videos 1-3. Representative immunofluorescence image showing co-localization of NuMA (green) and p150 (dynactin subunit; cyan) at microtubule minus-ends in mitotic PtK2 cells (post-NEB) fixed after washout of 5 uM nocodazole. Scale bar, 10 um. Inset: zoom of white box, with 1 um scale bar. Image collected and cropped by CiteAb from the following publication (<https://elifesciences.org/articles/29328>), licensed under a CC-BY license.



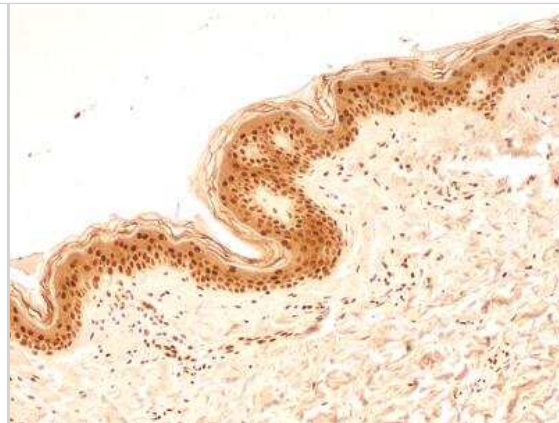
Immunohistochemistry-Paraffin: NuMA Antibody [NB500-174] - Analysis of FFPE tissue section of human normal breast using rabbit polyclonal NuMA antibody (NB500-174) at 5 ug/mL. The breast ductal/acinar epithelial cells, the myoepithelial cells and some cells in the surrounding connective tissue depicted a strong nuclear along with moderate cytoplasmic immuno-positivity for NuMA protein. The intra-lobular and the surrounding connective tissue also developed weak/potentially non-specific staining. 10X Magnification.



Immunohistochemistry-Paraffin: NuMA Antibody [NB500-174] - Analysis of FFPE tissue section of human normal spleen using rabbit polyclonal NuMA antibody (NB500-174) at 5 ug/mL. Most of the cells developed a strong nuclear along with moderate cytoplasmic immuno-positivity for NuMA protein. 10X Magnification.



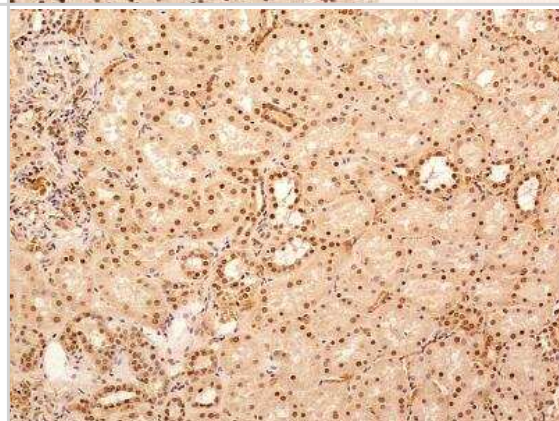
Immunohistochemistry-Paraffin: NuMA Antibody [NB500-174] - Analysis of FFPE tissue section of human normal skin using rabbit polyclonal NuMA antibody (NB500-174) at 5 ug/mL. Almost all the cells in the epidermal layer and the cells in the connective tissue of dermal layer depicted very strong nuclear along with moderate cytoplasmic immunopositivity for NuMA protein. 10X Magnification.



Immunohistochemistry-Paraffin: NuMA Antibody [NB500-174] - Analysis of FFPE tissue section of human normal brain using rabbit polyclonal NuMA antibody (NB500-174) at 5 ug/mL. The cells in the brain tissue depicted strong specific nuclear along with weak cytoplasmic immunopositivity for NuMA protein. 10X Magnification.



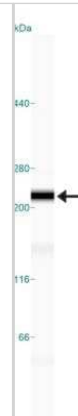
Immunohistochemistry-Paraffin: NuMA Antibody [NB500-174] - Analysis of FFPE tissue section of human normal kidney using rabbit polyclonal NuMA antibody (NB500-174) at 5 ug/mL. The cells of various tubules/ducts and Bowman's capsule in the renal tissue depicted strong nuclear along with relatively weak cytoplasmic immunopositivity for NuMA protein. 10X Magnification.



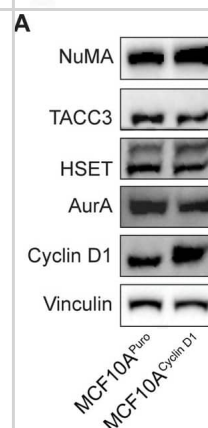
Immunohistochemistry-Paraffin: NuMA Antibody [NB500-174] - Analysis of FFPE tissue section of human normal prostate using rabbit polyclonal NuMA antibody (NB500-174) at 5 ug/mL. The prostatic alveolar glandular epithelium as well as the surrounding fibromuscular stroma cells showed a strong nuclear immunoreactivity for NuMA protein. Almost all the cells developed some cytoplasmic staining also. 10X Magnification.



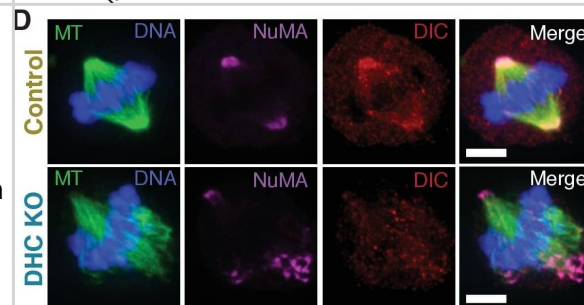
Simple Western: NuMA Antibody [NB500-174] - Image shows a specific band for NuMA in 0.2 mg/mL of HeLa lysate. This experiment was performed under reducing conditions using the 66-440 kDa separation system.



NuMA, but not HSET, Aurora A kinase, or TACC3, is upregulated in cyclin D1-overexpressing cells. (A) Western blot of NuMA, TACC3, HSET, Aurora A kinase, and cyclin D1 levels in MCF10APuro (control) and MCF10ACyclin D1 cell lines. The overexpressed cyclin D1 is HA-tagged. Vinculin is shown as a loading control. (B-C) Quantification of NuMA, cyclin D1 (B), HSET, Aurora A kinase, and TACC3 levels (C) normalized to vinculin levels. Lines show mean  $\pm$  standard deviation of three independent replicates. Image collected and cropped by CiteAb from the following open publication (<https://dx.plos.org/10.1371/journal.pone.0296779>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



NuMA localizes to minus-ends despite dynein inhibition or knockout. (A) Live images of GFP- $\alpha$ -tubulin immediately before and after k-fiber ablation at targeted sites (red 'X's) in a PtK2 cell in which dynein cargo-binding is inhibited by transfection of the dominant-negative p150-CC1 fragment (Quintyne and Schroer, 2002). Scale bar, 5  $\mu$ m. (B) Immunofluorescence image of NuMA (magenta) and  $\alpha$ -tubulin (yellow) in cell from (A), fixed after ablation. NuMA (arrowheads) localizes to new minus ends. Scale bar, 5  $\mu$ m. (C) Western blot showing >65% depletion (normalized to  $\alpha$ -tubulin) of dynein intermediate chain (DIC) protein at the cell population level after dynein heavy chain (DHC) depletion using inducible-Cas9 DHC-knockout HeLa cells (McKinley and Cheeseman, 2017). DIC depletion has been shown to correlate with DHC depletion (Levy and Holzbaun, 2008). Because knockout was heterogeneous across the population, dynein loss within individual cells chosen for analysis was always verified by immunofluorescence, as in (D), or by spindle phenotype. (D) Immunofluorescence images of inducible DHC-knockout HeLa cells show robust localization of NuMA at minus-ends after DHC knockout, in the absence of dynein (dynein intermediate chain; DIC). Scale bar, 5  $\mu$ m. (E) Plot of mean normalized GFP-NuMA intensity and SEM (shading) over time at ablation-created minus-ends in HeLa cells with and without dynein deletion (DHC KO). Time = 0 s at the first frame following ablation ('X'). n = 12 ablations, 7 cells for control; n = 10 ablations, 8 cells for DHC KO. (F) Time from ablation to half maximum GFP-NuMA intensity, calculated for each individual ablation (see Methods) and then averaged for data in (E). Error bars show SEM. Image collected and cropped by CiteAb from the following open publication (<https://pubmed.ncbi.nlm.nih.gov/29185983>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



## Publications

Cho N, Aslan M, Taheri A et al. NuMA mechanically reinforces the spindle independently of its partner dynein. *Current biology* : CB 2025-09-09 [PMID: 40769151]

M Fankhaenel, FSG Hashemi, L Mourao, E Lucas, MM Hosawi, P Skipp, X Morin, CLGJ Scheele, S Elias Annexin A1 is a polarity cue that directs mitotic spindle orientation during mammalian epithelial morphogenesis *Nature Communications*, 2023-01-11;14(1):151. 2023-01-11 [PMID: 36631478] (Western Blot, Immunocytochemistry/Immunofluorescence, Human)

Begley MA, Solon AL, Davis EM et al. K-fiber bundles in the mitotic spindle are mechanically reinforced by Kif15 *Molecular Biology of the Cell* 2021-12-01 [PMID: 34668719] (Western Blot, Immunocytochemistry/Immunofluorescence, Human)

Neahring L, Cho NH, Dumont S. Opposing motors provide mechanical and functional robustness in the human spindle *Developmental cell* 2021-09-30 [PMID: 34614397] (Western Blot, Immunocytochemistry/Immunofluorescence, Human)

Neahring L, Cho NH, He Y, Liu G et Al. Torques within and outside the human spindle balance twist at anaphase *J Cell Biol* 2024-06-13 [PMID: 38869473]

Sutanto R, Neahring L, Serra Marques A et Al. The oncogene cyclin D1 promotes bipolar spindle integrity under compressive force *PLoS One* 2024-03-13 [PMID: 38478555]

Vargas-Hurtado D, Brault JB, Piolot T et al. Differences in Mitotic Spindle Architecture in Mammalian Neural Stem Cells Influence Mitotic Accuracy during Brain Development *Curr. Biol.* 2019-09-23 [PMID: 31495584]

Chen Q, Weng K, Lin M et al. SOX9 modulates the transformation of gastric stem cells through biased symmetric cell division *Gastroenterology* 2023-02-03 [PMID: 36740200]

Serra-Marques A, Houtekamer R, Hintzen D, Canty JT The mitotic protein NuMA plays a spindle-independent role in nuclear formation and mechanics *J Cell Biol* 2020-10-12 [PMID: 33044554]

Pascal A, Gallaud E, Giet R, Benaud C Annexin A2 and Ahnak control cortical NuMA-dynein localization and mitotic spindle orientation *Journal of cell science* 2022-04-01 [PMID: 35362526]

Izumi H, Kaneko Y. Trim32 facilitates degradation of MYCN on spindle poles and induces asymmetric cell division in human neuroblastoma cells. *Cancer Res* 2014-10-01 [PMID: 25100564] (ICC/IF, Human)

Hueschen CL, Kenny SJ, Xu K, Dumont S NuMA recruits dynein activity to microtubule minus-ends at mitosis *Elife* 2017-11-29 [PMID: 29185983] (WB, ICC/IF, Marsupial)

Details:  
Bettongia (Rat-kangaroo)

More publications at <http://www.novusbio.com/NB500-174>



### **Novus Biologicals USA**

10730 E. Briarwood Avenue  
Centennial, CO 80112  
USA  
Phone: 303.730.1950  
Toll Free: 1.888.506.6887  
Fax: 303.730.1966  
nb-customerservice@bio-techne.com

### **Bio-Techne Canada**

21 Canmotor Ave  
Toronto, ON M8Z 4E6  
Canada  
Phone: 905.827.6400  
Toll Free: 855.668.8722  
Fax: 905.827.6402  
canada.inquires@bio-techne.com

### **Bio-Techne Ltd**

19 Barton Lane  
Abingdon Science Park  
Abingdon, OX14 3NB, United Kingdom  
Phone: (44) (0) 1235 529449  
Free Phone: 0800 37 34 15  
Fax: (44) (0) 1235 533420  
info.EMEA@bio-techne.com

### **General Contact Information**

www.novusbio.com  
Technical Support: nb-technical@bio-techne.com  
Orders: nb-customerservice@bio-techne.com  
General: novus@novusbio.com

### **Products Related to NB500-174**

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NB800-PC1	HeLa Whole Cell Lysate
NBP2-33376H	Blue Marker Antibody (6F4-F6) [HRP]
HAF008	Goat anti-Rabbit IgG Secondary Antibody [HRP]
NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control

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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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