

# Product Datasheet

## Aggrecan Neoepitope Antibody - BSA Free NB100-74350

Unit Size: 0.1 ml

Store at -20C. Avoid freeze-thaw cycles.

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Updated 2/1/2026 v.20.1

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**NB100-74350**

Aggrecan Neopeptide Antibody - BSA Free

Product Information	
Unit Size	0.1 ml
Concentration	1 mg/ml
Storage	Store at -20C. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.1% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	PBS and 30% Glycerol
Target Molecular Weight	61 kDa

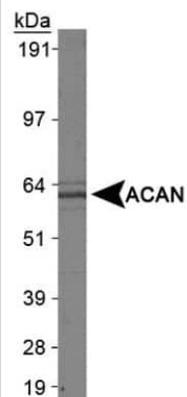
Product Description	
Description	Novus Biologicals Rabbit Aggrecan Neopeptide Antibody - BSA Free (NB100-74350) is a polyclonal antibody validated for use in IHC, WB, Flow and ICC/IF. Anti-Aggrecan Neopeptide Antibody: Cited in 29 publications. All Novus Biologicals antibodies are covered by our 100% guarantee.
Host	Rabbit
Gene ID	176
Gene Symbol	ACAN
Species	Human, Mouse, Rat, Porcine, Bovine, Canine
Specificity/Sensitivity	Aggrecan Neo (JSCNIT)
Immunogen	A synthetic peptide corresponding to a region of human Aggrecan (within residues 350-400). [UniProt# P16112]

Product Application Details	
Applications	Western Blot, Immunohistochemistry-Paraffin, Flow Cytometry, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen
Recommended Dilutions	Western Blot 1:1000, Flow Cytometry reported in scientific literature (PMID 21482542), Immunohistochemistry 1:1000, Immunocytochemistry/ Immunofluorescence 1:20-1:100, Immunohistochemistry-Paraffin 1:1000, Immunohistochemistry-Frozen reported in scientific literature (PMID 21482542)
Application Notes	In WB a band is detected at ~61 kDa representing the neopeptide sequence (NITEGE) generated by aggrecanase-mediated cleavage at Glu373-Ala374 of aggrecan core proteins.



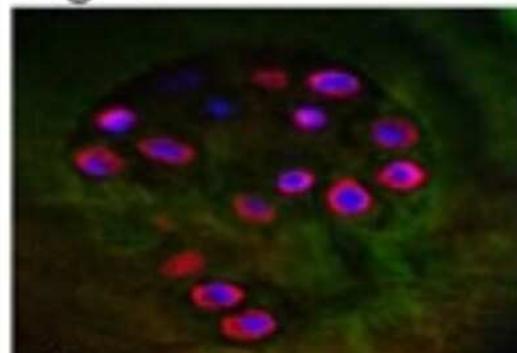
## Images

Western Blot: Aggrecan Neoepitope Antibody [NB100-74350] - Analysis of ACAN in L929 whole cell extract using NB100-74350.

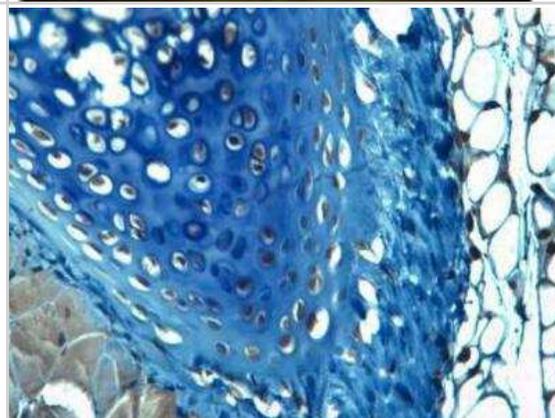


Immunocytochemistry/Immunofluorescence: Aggrecan Neoepitope Antibody [NB100-74350] - Detection of ACAN in OA cartilage using NB100-74350.

Fig. 1



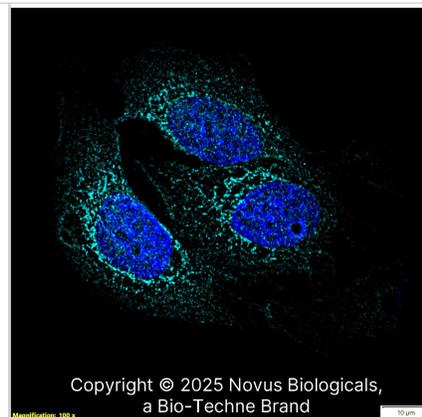
Immunohistochemistry: Aggrecan Neoepitope Antibody [NB100-74350] - Analysis of ACAN in mouse cartilage with hematoxylin counterstain.



Western Blot: Aggrecan Neoepitope Antibody [NB100-74350] - Analysis of ACAN in U2OS cell lysate.

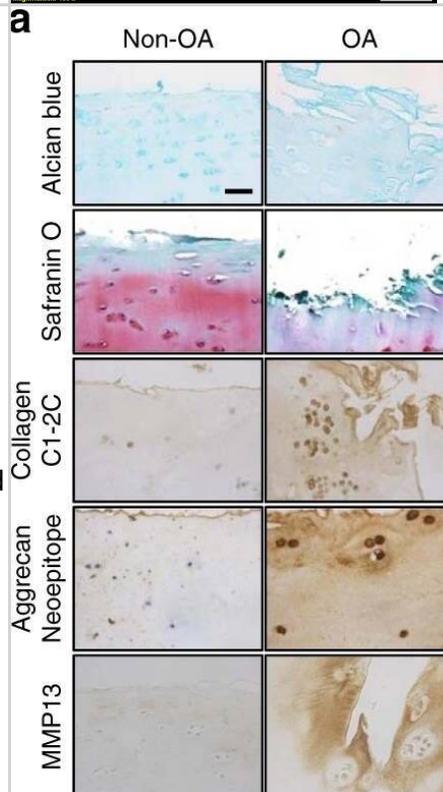


Aggrecan Neoepitope was detected in immersion fixed U-2 OS human osteosarcoma cell line using Rabbit anti-Aggrecan Neoepitope Antigen Affinity Purified Polyclonal Antibody conjugated to Alexa Fluor® 647 (Catalog # NB100-74350AF647) (light blue) at 10 µg/mL overnight at 4°C. Cells were counterstained with DAPI (blue). Cells were imaged using a 100X objective and digitally deconvolved



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NUDT7, a peroxisomal gene, is suppressed during osteoarthritis (OA) pathogenesis. a Staining with Alcian blue or safranin O and immunohistochemistry of Collagen C1-2C, Aggrecan Neoepitope, and matrix metalloproteinase (MMP)-13 using non-OA and OA cartilage from human patients with OA pathogenesis (n = 5 per group). Scale bar, 50 µm. b Transcription levels of 94 peroxisome-related genes in human OA chondrocytes (n = 15 per group) compared with those in normal chondrocytes (n = 8 per group). c Immunostaining of NUDT7, and the mRNA level of NUDT7 in human OA chondrocytes (n = 20 per group) compared with that in normal chondrocytes (n = 13 per group). Scale bar, 50 µm. d Transcription level of NUDT7 in normal chondrocytes infected with lentivirus containing each NUDT7 short hairpin RNA (shRNA). e Transcription level of matrix-degrading enzymes in normal chondrocytes infected with lentivirus containing an NUDT7 shRNA (shNUDT7) (n = 3). f, g Analysis of cell proliferation (n = 4 per group) and apoptotic cell death (n = 6 per group) in normal chondrocytes infected with lentivirus containing NUDT7 or NUDT7 shRNA. h, i Activities of catalase and glutathione peroxidase (GPx) in normal chondrocytes infected with lentivirus containing NUDT7 or NUDT7 shRNA (n = 6 per group). Values are means + s.d. An unpaired Student's t test was used for statistical analysis. \*P < 0.05, \*\*P < 0.01, \*\*\*P < 0.001, \*\*\*\*P < 0.0001 Image collected and cropped by CiteAb from the following open publication (<https://pubmed.ncbi.nlm.nih.gov/30143643>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



## Publications

Robby A, Kim E, Huh K et al. Mevalonate pathway-triggered phase transition of injectable hydrogel for cholesterol-downregulated therapy of osteoarthritis *Bioactive Materials* 2025-09-01 [PMID: 40678261]

Huang G, He C, Fu W et al. Cytosolic phospholipase A2 as a therapeutic target for degenerative joint diseases *Bone research* 2025-10-15 [PMID: 41093854]

Dong R, Xu H, Wang P et al. Disruption of Col9a2 expression leads to defects in osteochondral homeostasis and osteoarthritis-like phenotype in mice *Journal of Orthopaedic Translation* 2023-08-14 [PMID: 37635809] (Flow Cytometry, Immunohistochemistry-Frozen, Porcine)

Shaw A, TOth B, Arianti R Et al. BMP7 increases UCP1-dependent and independent thermogenesis with a unique gene expression program in human neck area derived adipocytes *Pharmaceuticals* 2021-09-28 [PMID: 34832860] (Flow Cytometry, Immunohistochemistry-Frozen, Porcine)

Liu NQ, Lin Y, Li L et al. gp130/STAT3 signaling is required for homeostatic proliferation and anabolism in postnatal growth plate and articular chondrocytes *Communications Biology* 2022-01-17 [PMID: 35039652] (Flow Cytometry, Immunohistochemistry-Frozen, Porcine)

Sheng-Long Ding, Tai-Wei Zhang, Qi-Chen Zhang, Wang Ding, Ze-Fang Li, Guan-Jie Han, Jin-Song Bai, Xi-Lei Li, Jian Dong, Hui-Ren Wang, Li-Bo Jiang Excessive mechanical strain accelerates intervertebral disc degeneration by disrupting intrinsic circadian rhythm *Experimental & Molecular Medicine* 2021-12-21 [PMID: 34934193]

Fu, W;Vasylyev, D;Bi, Y;Zhang, M;Sun, G;Khleborodova, A;Huang, G;Zhao, L;Zhou, R;Li, Y;Liu, S;Cai, X;He, W;Cui, M;Zhao, X;Hettinghouse, A;Good, J;Kim, E;Strauss, E;Leucht, P;Schwarzkopf, R;Guo, EX;Samuels, J;Hu, W;Attur, M;Waxman, SG;Liu, CJ; Nav1.7 as a chondrocyte regulator and therapeutic target for osteoarthritis *Nature* 2024-01-03 [PMID: 38172636]

Song J, Kim EH, Yang JH et al. Upregulated FOXM1 stimulates chondrocyte senescence in *Acot12<sup>-/-</sup>Nudt7<sup>-/-</sup>* double knockout mice *Theranostics* 2023-09-25 [PMID: 37908734] (IHC-P, Mouse)

Xiong B, Chen L, Huang Y et al. ZBTB16 eases lipopolysaccharide-elicited inflammation, apoptosis and degradation of extracellular matrix in chondrocytes during osteoarthritis by suppressing GRK2 transcription *Experimental and Therapeutic Medicine* 2023-04-24 [PMID: 37206562] (WB)

Shaw A Thermogenic regulation of human abdominal and neck area derived adipocytes by mitophagy, irisin and BMP 7 Thesis 2022-01-01 (WB, Human)

### Details:

Dilution used for WB 1:1001

Cui S, Li W, Teixeira G et al. Neoepitope fragments as biomarkers for different phenotypes of intervertebral disc degeneration *JOR SPINE* 2022-07-06 [PMID: 36203866]

Xu H, Dong R, Zeng Q et al. Col9a2 gene deletion accelerates the degeneration of intervertebral discs *Experimental and Therapeutic Medicine* 2022-01-07 [PMID: 35126710] (ICC/IF, IF/IHC, Mouse)

More publications at <http://www.novusbio.com/NB100-74350>

## Procedures

### Western Blot protocol for Aggrecan Neoepitope Antibody (NB100-74350)

#### Western Blot Protocol

1. Perform SDS-PAGE (4-12% MOPS) on samples to be analyzed, loading 35 ug of total protein per lane.
  2. Transfer proteins to Nitrocellulose according to the instructions provided by the manufacturer of the transfer apparatus.
  3. Rinse membrane with dH<sub>2</sub>O and then stain the blot using Ponceau S for 1-2 minutes to access the transfer of proteins onto the nitrocellulose membrane. Rinse the blot in water to remove excess stain and mark the lane locations and locations of molecular weight markers using a pencil.
  4. Rinse the blot in TBS for approximately 5 minutes.
  5. Block the membrane using 5% NFDM + 1% BSA in TBS + Tween, 1 hour at RT.
  6. Rinse the membrane in dH<sub>2</sub>O and then wash the membrane in wash buffer [TBS + 0.1% Tween] 3 times for 10 minutes each.
  7. Dilute the rabbit anti-ACAN primary antibody (NB100-74350) in blocking buffer and incubate 1 hour at room temperature.
  8. Rinse the membrane in dH<sub>2</sub>O and then wash the membrane in wash buffer [TBS + 0.1% Tween] 3 times for 10 minutes each.
  9. Apply the diluted rabbit-IgG HRP-conjugated secondary antibody in blocking buffer (as per manufacturers instructions) and incubate 1 hour at room temperature.
  10. Wash the blot in wash buffer [TBS + 0.1% Tween] 3 times for 10 minutes each (this step can be repeated as required to reduce background).
  11. Apply the detection reagent of choice in accordance with the manufacturers instructions (Pierce ECL).
- Note: Tween-20 can be added to the blocking or antibody dilution buffer at a final concentration of 0.05-0.2%, provided it does not interfere with antibody-antigen binding.

### Immunohistochemistry-Paraffin Protocol for Aggrecan Neoepitope Antibody (NB100-74350)

#### Immunohistochemistry-Paraffin Embedded Sections

#### Antigen Unmasking:

Bring slides to a boil in 10 mM sodium citrate buffer (pH 6.0) then maintain at a sub-boiling temperature for 10 minutes. Cool slides on bench-top for 30 minutes (keep slides in the sodium citrate buffer at all times).

#### Staining:

1. Wash sections in deionized water three times for 5 minutes each.
2. Wash sections in PBS for 5 minutes.
3. Block each section with 100-400 ul blocking solution (1% BSA in PBS) for 1 hour at room temperature.
4. Remove blocking solution and add 100-400 ul diluted primary antibody. Incubate overnight at 4 C.
5. Remove antibody solution and wash sections in wash buffer three times for 5 minutes each.
6. Add 100-400 ul HRP polymer conjugated secondary antibody. Incubate 30 minutes at room temperature.
7. Wash sections three times in wash buffer for 5 minutes each.
8. Add 100-400 ul DAB substrate to each section and monitor staining closely.
9. As soon as the sections develop, immerse slides in deionized water.
10. Counterstain sections in hematoxylin.
11. Wash sections in deionized water two times for 5 minutes each.
12. Dehydrate sections.
13. Mount coverslips.



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### **Products Related to NB100-74350**

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NB100-74350PEP	Aggrecan Neopeptide Antibody Blocking Peptide
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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