Product Datasheet

RUNX2/CBFA1 Antibody - BSA Free
NBP1-77461

Unit Size: 0.1 ml

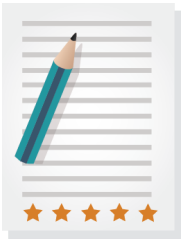
Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

www.novusbio.com technical@novusbio.com

Publications: 17

Protocols, Publications, Related Products, Reviews, Research Tools and Images at:
www.novusbio.com/NBP1-77461

Updated 10/23/2024 v.20.1



NBP1-77461

RUNX2/CBFA1 Antibody - BSA Free

Product Information

Unit Size	0.1 ml
Concentration	1 mg/ml
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.05% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	PBS and 30% Glycerol
Target Molecular Weight	56.6 kDa

Product Description

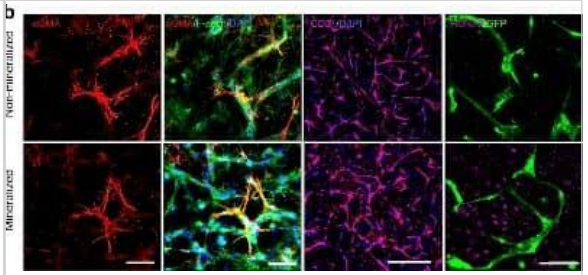
Host	Rabbit
Gene ID	860
Gene Symbol	RUNX2
Species	Human, Mouse
Immunogen	This RUNX2/CBFA1 Antibody was prepared from a synthetic peptide made to an internal region of the human RUNX2 protein (within residues 300-375). [Swiss-Prot Q13950]

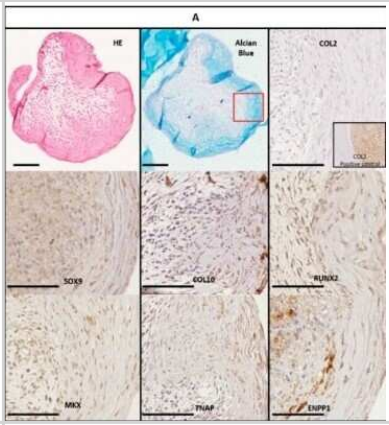
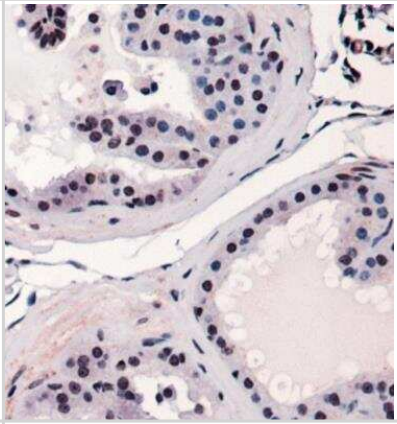
Product Application Details

Applications	Western Blot, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin
Recommended Dilutions	Western Blot reported in scientific literature (PMID 29208768), Immunohistochemistry 1:200, Immunocytochemistry/ Immunofluorescence 1:100, Immunohistochemistry-Paraffin 1:200
Application Notes	Prior to immunostaining paraffin tissues antigen retrieval with sodium citrate buffer (pH 6.0) is recommended.

Images

Immunohistochemistry-Paraffin: RUNX2/CBFA1 Antibody - BSA Free [NBP1-77461] - RUNX2/CBFA1 Antibody [NBP1-77461] - Vascularization of mineralized cell-laden collagen and interaction with prostate cancer cells. HUVECs formed endothelial networks that were supported by SMA-expressing hMSCs (scale bar: 50m) and were also positive for CD31 (scale bar: 400m). The remainder of hMSCs expressed RUNX2 as a marker for osteogenic differentiation (scale bar: 50m). Rapid fabrication of vascularized and innervated cell-laden bone models with biomimetic intrafibrillar collagen mineralization. Image collected and cropped by CiteAb from the following publication (//pubmed.ncbi.nlm.nih.gov/31388010/) licensed under a CC-BY license.



Immunocytochemistry/Immunofluorescence: RUNX2/CBFA1 Antibody [NBP1-77461] - HeLa cells were fixed in 4% paraformaldehyde for 10 minutes and permeabilized in 0.5% Triton X-100 in PBS for 5 minutes. The cells were incubated with RUNX2/CBFA1 Antibody (NBP1-77461) at 1 ug/ml overnight at 4C and detected with an anti-rabbit Dylight 488 (Green) at a 1:1000 dilution for 60 minutes. Nuclei were counterstained with DAPI (Blue). Cells were imaged using a 100X objective and digitally deconvolved.	
Immunohistochemistry-Paraffin: RUNX2/CBFA1 Antibody - BSA Free [NBP1-77461] - RUNX2/CBFA1 Antibody [NBP1-77461] - Characterization of TLC cultured in chondrogenic pellets. Gene expression of TLC cultured four weeks in chondrogenic pellets or in cell monolayer in control medium: levels of expression of osteoblast markers (1), chondrocyte markers (2) and tenocyte markers (3) (N = 3) assessed by qPCR.* =0.05. Rotator Cuff Tenocytes Differentiate into Hypertrophic Chondrocyte-Like Cells to Produce Calcium Deposits in an Alkaline Phosphatase-Dependent Manner. Image collected and cropped by CiteAb from the following publication (//pubmed.ncbi.nlm.nih.gov/31561454/) licensed under a CC-BY license.	
Immunohistochemistry: RUNX2/CBFA1 Antibody [NBP1-77461] - Staining of RUNX2 in mouse prostate using DAB with hematoxylin counterstain.	
Immunohistochemistry: RUNX2/CBFA1 Antibody - BSA Free [NBP1-77461] - Histological characterization of rotator cuff calcifications (N = 5). (A) Calcific deposits assessed by micro-computed tomography. (B) HE (hematoxylin & eosin) staining of decalcified samples (1 image for each patient). (C) Von Kossa staining on not decalcified samples & characterization of the fibrocartilaginous area with alcian blue staining, SOFG (Safranin O/Fast Green) staining, & immunohistochemical staining for COL2 (brown) with Gill hematoxylin counterstain. (D,E) Representative immunohistochemical staining for ENPP1 (ectonucleotide pyrophosphatase/phosphodiesterase 1), TNAP (tissue non-specific alkaline phosphatase), Runx2, Sox9, Col10 & CD31 (brown). TF: tendon fibers; CD: calcium deposits, FM: fibrocartilaginous metaplasia; OM: osseous metaplasia; CT: connective tissue; V: vessels. Scale bar = 200 µM. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/31561454), licensed under a CC-BY license. Not internally tested by Novus Biologicals.	

Publications

Sousa MGDC, Balbinot GS, Subbiah R et al. In vitro development and optimization of cell-laden injectable bioprinted gelatin methacryloyl (GelMA) microgels mineralized on the nanoscale bioRxiv : the preprint server for biology 2023-10-12 [PMID: 37873385] (Immunocytochemistry/ Immunofluorescence, Mouse)

Chan, B;Glogauer, M;Wang, Y;Wrana, J;Chan, K;Beier, F;Bali, S;Hinz, B;Parreno, J;Ashraf, S;Kandel, R; Adseverin, an actin-binding protein, modulates hypertrophic chondrocyte differentiation and osteoarthritis progression Science advances 2023-08-04 [PMID: 37540756] (In vivo assay)

Poudel SB, Ruff RR, Yildirim G et al. Excess growth hormone triggers inflammation-associated arthropathy, subchondral bone loss, and arthralgia The American journal of pathology 2023-03-02 [PMID: 36870529] (IHC-P, Mouse)

Subbiah R, Lin EY, Athirasala A et al. Engineering of an osteoinductive and growth factor-free injectable bone-like microgel for bone regeneration Advanced healthcare materials 2023-02-20 [PMID: 36808718]

Zanut A, Li R, Deng R et al. A polymer canvas with the stiffness of the bone matrix to study and control mesenchymal stem cell response Advanced healthcare materials 2022-12-24 [PMID: 36565136]

Ciavarella C, Motta I, Vasuri F et al. Involvement of miR-30a-5p and miR-30d in Endothelial to Mesenchymal Transition and Early Osteogenic Commitment under Inflammatory Stress in HUVEC Biomolecules 2021-02-05 [PMID: 33562690] (ICC/IF, Human)

Serjeant M, Moon PM, Quinonez D, et al. The Role of Panx3 in Age-Associated and Injury-Induced Intervertebral Disc Degeneration International journal of molecular sciences 2021-01-22 [PMID: 33499145] (IF/IHC, Mouse)

Cahill SV, Kwon HK, Back J et al. Locally-delivered Adjuvant Biofilm-penetrating Antibiotics Rescue Impaired Endochondral Fracture Healing Caused by MRSA Infection Journal of orthopaedic research : official publication of the Orthopaedic Research Society 2020-12-18 [PMID: 33336805]

Chen PY, Qin L, Li G et al. Smooth Muscle Cell Reprogramming in Aortic Aneurysms Cell Stem Cell 2020-04-02 [PMID: 32243809] (Mouse)

Darrieutort-Laffite C, Arnolfo P, Garraud T et al. Rotator Cuff Tenocytes Differentiate into Hypertrophic Chondrocyte-Like Cells to Produce Calcium Deposits in an Alkaline Phosphatase-Dependent Manner J Clin Med [PMID: 31561454] (IF/IHC)

Thrivikraman G, Athirasala A, Gordon R et al. Rapid fabrication of vascularized and innervated cell-laden bone models with biomimetic intrafibrillar collagen mineralization Nat Commun 2019-08-06 [PMID: 31388010] (ICC/IF, Human)

Priante G, Ceol M, Gianesello L et al. Human proximal tubular cells can form calcium phosphate deposits in osteogenic culture: role of cell death and osteoblast-like transdifferentiation. Cell Death Discov 2019-01-28 [PMID: 30701089] (WB, Human)

More publications at http://www.novusbio.com/NBP1-77461

Procedures

Immunohistochemistry-Paraffin protocol for RUNX2 Antibody (NBP1-77461)
RUNX2/CBFA1 Antibody:
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.

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

*The above information is only intended as a guide. The researcher should determine what protocol best meets their needs. Please follow safe laboratory procedures.

Immunocytochemistry/Immunofluorescence Protocol for RUNX2 Antibody (NBP1-77461)
RUNX2/CBFA1 Antibody:
Culture cells to appropriate density in 35 mm culture dishes or 6-well plates.

1. Remove culture medium and add 10% formalin to the dish. Fix at room temperature for 30 minutes.
2. Remove the formalin and add ice cold methanol. Incubate for 5-10 minutes.
3. Remove methanol and add washing solution (i.e. PBS). Be sure to not let the specimen dry out. Wash three times for 10 minutes.
4. To block nonspecific antibody binding incubate in 10% normal goat serum from 1 hour to overnight at room temperature.
5. Add primary antibody at appropriate dilution and incubate at room temperature from 2 hours to overnight at room temperature.
6. Remove primary antibody and replace with washing solution. Wash three times for 10 minutes.
7. Add secondary antibody at appropriate dilution. Incubate for 1 hour at room temperature.
8. Remove antibody and replace with wash solution, then wash for 10 minutes. Add Hoechst 33258 to wash solution at 1:25,0000 and incubate for 10 minutes. Wash a third time for 10 minutes.
9. Cells can be viewed directly after washing. The plates can also be stored in PBS containing Azide covered in Parafilm (TM). Cells can also be cover-slipped using Fluoromount, with appropriate sealing.

*The above information is only intended as a guide. The researcher should determine what protocol best meets their needs. Please follow safe laboratory procedures.

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 NBP1-77461

HAF008	Goat anti-Rabbit IgG Secondary Antibody [HRP]
NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control
NBP1-77461AF647	RUNX2/CBFA1 Antibody [Alexa Fluor® 647]

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.

For more information on our 100% guarantee, please visit www.novusbio.com/guarantee

Earn gift cards/discounts by submitting a review: www.novusbio.com/reviews/submit/NBP1-77461

Earn gift cards/discounts by submitting a publication using this product: www.novusbio.com/publications