

# Product Datasheet

## LAP (TGF-beta 1) Antibody (7F6) - BSA Free NBP2-22114

Unit Size: 0.1 ml

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

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



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**NBP2-22114**

LAP (TGF-beta 1) Antibody (7F6) - BSA Free

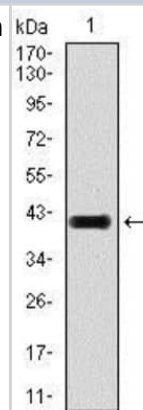
Product Information	
Unit Size	0.1 ml
Concentration	1 mg/ml
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Monoclonal
Clone	7F6
Preservative	0.02% Sodium Azide
Isotype	IgG1
Purity	Ammonium sulfate precipitation
Buffer	PBS
Target Molecular Weight	44.3 kDa

Product Description	
Description	Novus Biologicals Mouse LAP (TGF-beta 1) Antibody (7F6) - BSA Free (NBP2-22114) is a monoclonal antibody validated for use in IHC, WB, ELISA and Flow. Anti-LAP (TGF-beta 1) Antibody: Cited in 18 publications. All Novus Biologicals antibodies are covered by our 100% guarantee.
Host	Mouse
Gene ID	7040
Gene Symbol	TGFB1
Species	Human, Mouse, Rat
Reactivity Notes	Mouse reactivity reported in scientific literature (PMID: 26851347). Rat reactivity reported in scientific literature (PMID: 30147399).
Immunogen	Purified recombinant fragment of human TGF beta 1 (amino acids 62-197) expressed in E. coli. [UniProt# P01137]

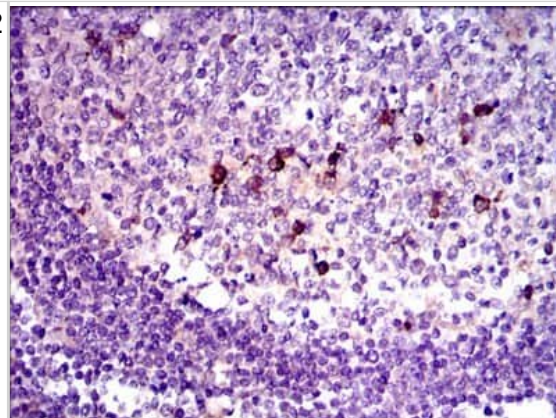
Product Application Details	
Applications	Western Blot, Immunohistochemistry-Paraffin, ELISA, Flow Cytometry, Immunohistochemistry
Recommended Dilutions	Western Blot 1:500-1:2000, Flow Cytometry 1:200-1:400, ELISA 1:10000, Immunohistochemistry reported in scientific literature (PMID 30147399), Immunohistochemistry-Paraffin reported by customer review

**Images**

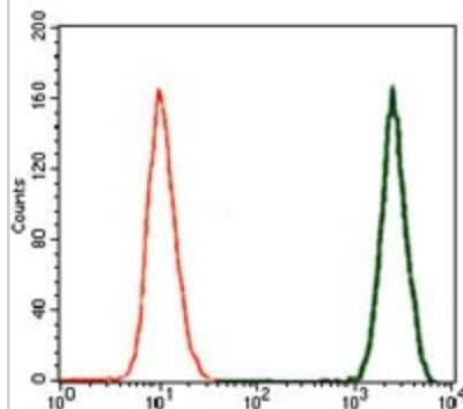
Western Blot: LAP (TGF-beta 1) Antibody (7F6) [NBP2-22114] - Western blot analysis using TGF beta 1 mAb against human LAP (TGF-beta 1) recombinant protein. (Expected MW is 41 kDa)



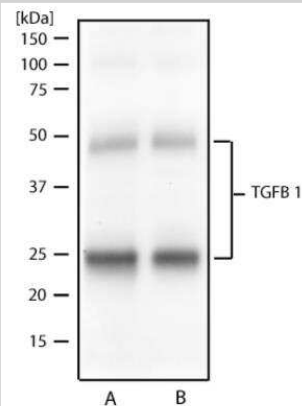
Immunohistochemistry-Paraffin: LAP (TGF-beta 1) Antibody (7F6) [NBP2-22114] - Immunohistochemical analysis of paraffin-embedded lymphoid tissue tissues using LAP (TGF-beta 1) mouse mAb with DAB staining.



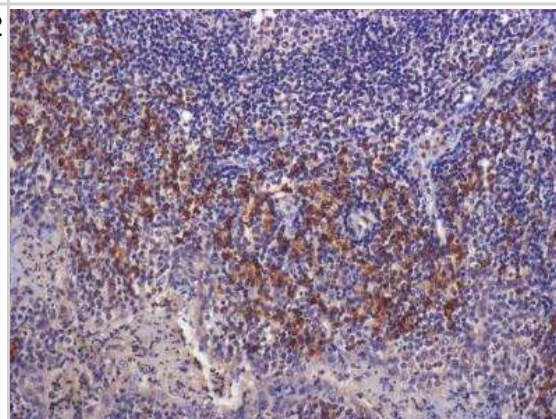
Flow Cytometry: LAP (TGF-beta 1) Antibody (7F6) [NBP2-22114] - Flow cytometric analysis of A549 cells using LAP (TGF-beta 1) mouse mAb (green) and negative control (red).



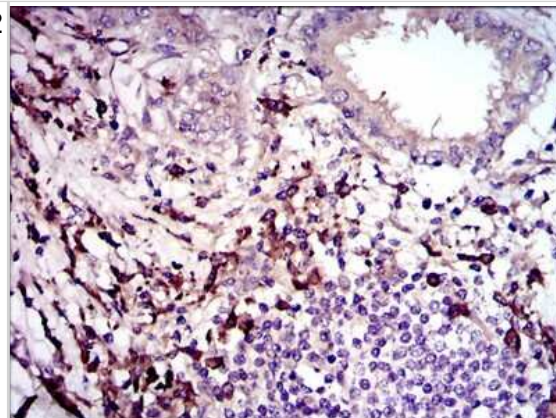
Western Blot: LAP (TGF-beta 1) Antibody (7F6) [NBP2-22114] - Western blot analysis of human stomach tissue (A) and human small intestine tissue (B) using TGF beta 1 antibody (NBP2-22114) at 2 ug/ml.



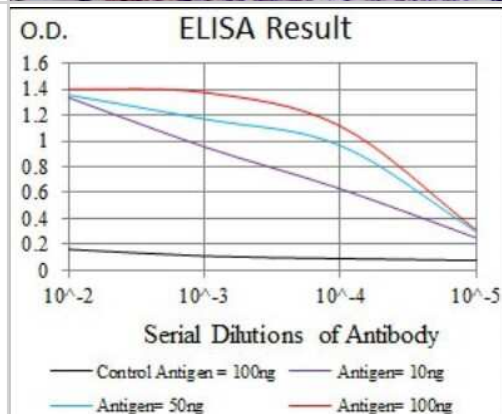
Immunohistochemistry-Paraffin: LAP (TGF-beta 1) Antibody (7F6) [NBP2-22114] - Human tonsil. Image from verified customer review.



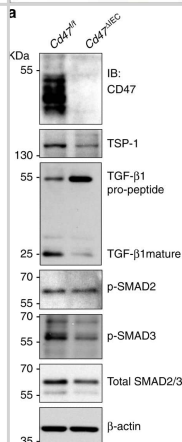
Immunohistochemistry-Paraffin: LAP (TGF-beta 1) Antibody (7F6) [NBP2-22114] - Immunohistochemical analysis of paraffin-embedded lung cancer tissues using LAP (TGF-beta 1) mouse mAb with DAB staining.



ELISA: LAP (TGF-beta 1) Antibody (7F6) [NBP2-22114] - Red: Control Antigen (100ng); Purple: Antigen (10ng); Green: Antigen (50ng); Blue: Antigen (100ng).

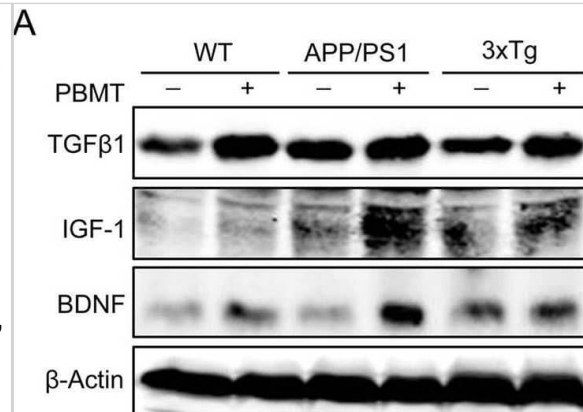


CD47 regulates thrombospondin-1, TGF- $\beta$ 1, and collagen deposition after injury. a Whole cell lysates from freshly isolated intestinal epithelial cells from Cd47f/f and Cd47 $\Delta$ IEC mice were subjected to SDS-PAGE and immunoblot for thrombospondin-1/TSP-1, TGF- $\beta$ 1, and phosphorylated SMAD2 and SMAD3. Results are representative of three independent experiments. b Representative Masson's trichrome staining of wounds beds and chronic DSS-colitis colons from Cd47f/f and Cd47 $\Delta$ IEC mice. Scale bars = 50  $\mu$ m. Results representative of three independent experiments with 5–7 mice per group. Source data are provided as a Source Data file Image collected and cropped by CiteAb from the following open publication (<https://pubmed.ncbi.nlm.nih.gov/31676794>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.

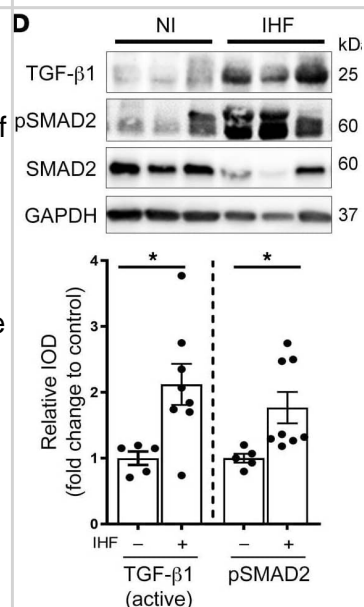




The upregulation of TGF $\beta$ 1/IGF-1/BDNF expression in the brain of AD mice by PBMT extended to promote adult hippocampal neurogenesis. A, B Western blotting analysis (A) and quantification (B) of TGF $\beta$ 1/IGF-1/BDNF expression in APP/PS1 and 3xTg-AD mouse brain after PBMT, (n = 3–4 per group). C The concentration of TGF $\beta$ 1/IGF-1/BDNF in brain tissues were measured by enzyme linked immunosorbent assay (ELISA), (n = 3–6 per group). D Representative images of Nestin+ (neural stem cell staining) and neuronal class-III  $\beta$ -tubulin (Tuj1)+ (newborn neurons staining) expression cells in APP/PS1 and 3xTg-AD mouse hippocampal dentate gyrus (DG) at the end of PBMT. Scale bars, 50  $\mu$ m. E Quantitative analyses of Nestin+ and Tuj1+ area in the hippocampal DG of each group, (n = 4 per group). F Quantitative analyses of the Nestin and Tuj1 mean fluorescence (MFI) in the brain tissues of each group after PBMT. The Nestin and Tuj1 MFI were detected by flow cytometer, (n = 5–6 per group). G Tuj1 antibody was used to staining the newborn neurons, and then, the expression of  $\alpha$ -amino-3-hydroxy-5-methyl-4-isoxazole-propionic acid receptors (AMPA) and postsynaptic density protein 95 (PSD95) on Tuj1+ neurons were detected by flow cytometer. All quantifications are presented as mean  $\pm$  SEM and were analyzed by one-way ANOVA test; \*\*\*p < 0.001, \*\*p < 0.01, \*p < 0.05 versus WT group; ###p < 0.001, ##p < 0.01, #p < 0.05 versus indicated group Image collected and cropped by CiteAb from the following open publication (<https://pubmed.ncbi.nlm.nih.gov/36217178>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.

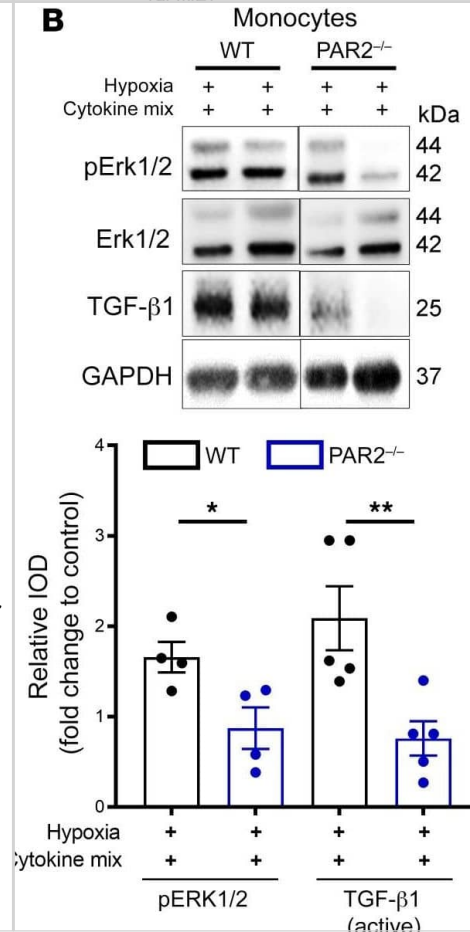
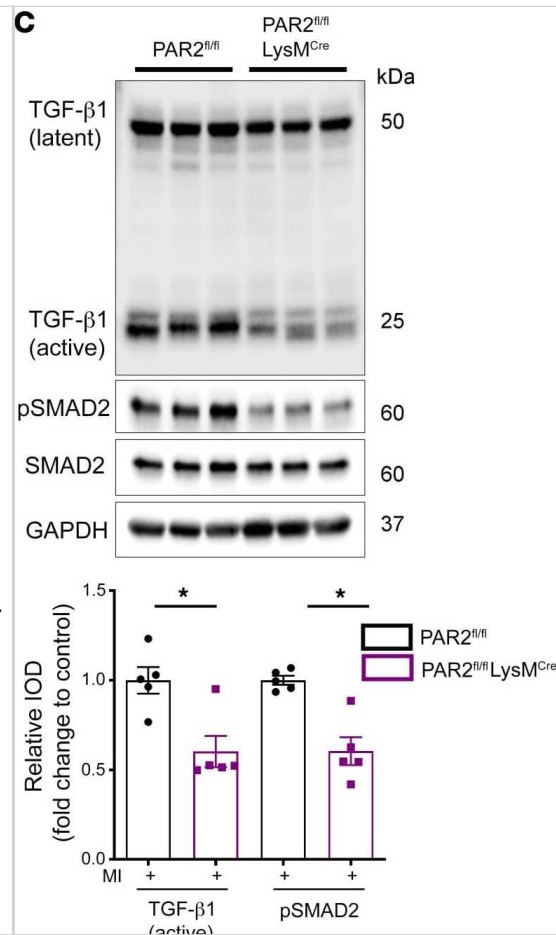


TF cytoplasmic domain phosphorylation–dependent increased TGF- $\beta$ 1 activation in clinical setting of MI. (A) Representative confocal images of phosphorylation status of TF in infarcted myocardium obtained from WT or TF $\Delta$ CT mice after 7 days. Representative images and quantification of biological replicates. Kruskal-Wallis test and Dunn's multiple-comparison test; n = 3–4 animals per group. Scale bars: 50  $\mu$ m. (B) Representative immunofluorescence confocal microscopy images of CD45+ and CD45/p-TF double-positive cells in human myocardium specimens obtained from n = 5 nonischemic (NI) donor hearts and n = 7 IHF patients. Quantification of biological replicates. Mann-Whitney test. Scale bars: 50  $\mu$ m. (C and D) Western blot analysis and quantification of human LV tissue obtained from n = 5 nonischemic donor hearts and n = 9 IHF patients for p-TF (normalized to total TF) and TF (C) or TGF- $\beta$ 1 (normalized to GAPDH) and p-SMAD2 (normalized to total SMAD2) (D). Mann-Whitney test. Data are shown as mean  $\pm$  SEM. \*P < 0.05. Image collected and cropped by CiteAb from the following open publication (<https://pubmed.ncbi.nlm.nih.gov/36548062>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.

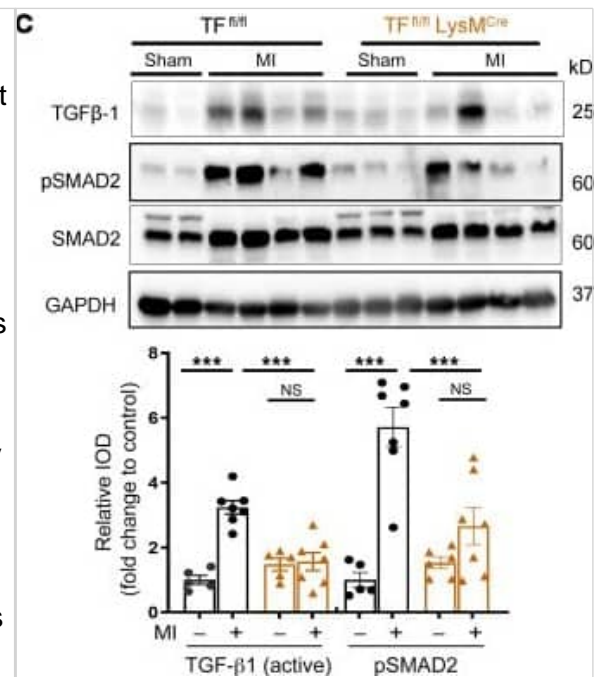


A profibrotic MEK1/2–TGF- $\beta$ 1 pathway is linked to PAR2-mediated ROS signaling in monocytes. (A and B) Protein expression analysis of monocytes isolated from WT mice and pretreated in vitro with trametinib (10  $\mu$ M) for 1 hour (A), or isolated from PAR2 $^{-/-}$  versus WT mice (B). Cells were stimulated with an inflammatory cytokine cocktail containing IL-6, TNF- $\alpha$ , and CCL2 at a concentration of 20 ng/mL with and without hypoxia for 4 hours. Western blotting of p-ERK1/2 (normalized to total ERK1/2) and activated TGF- $\beta$ 1 (normalized to GAPDH). Ordinary 1-way ANOVA, Šidak's multiple-comparison test; n = 5 replicates (2–3 mice were pooled for each sample). (C–E) PAR2 $^{fl/fl}$  and PAR2 $^{fl/fl}$  LysM $^{Cre}$  littermates were subjected to permanent LAD ligation and investigated after 7 days; n = 5–10 animals per group. (C) Western blot analysis of activated TGF- $\beta$ 1 (normalized to GAPDH) and p-SMAD2 (normalized to total SMAD2) in the infarcted myocardium. Representative blots and quantification of biological replicates. (D) High-frequency ultrasound echocardiography obtained from PAR2 $^{fl/fl}$  LysM $^{Cre}$  and PAR2 $^{fl/fl}$  littermate control mice with measurement of LVEF (%) and LVEDV ( $\mu$ L). Mann-Whitney test. (E) Kaplan-Meier survival analysis of permanently LAD-ligated PAR2 $^{fl/fl}$  LysM $^{Cre}$  and PAR2 $^{fl/fl}$  littermate control mice over 7 days. Log-rank (Mantel-Cox) test. (F) Sirius red staining and deconvoluted images of fibrotic area on paraffin-embedded heart sections 4 weeks after permanent LAD ligation to induce IHF. Representative images and quantification of fibrotic areas normalized to surface area. Unpaired, 2-sided t test; n = 5 animals per group. Data are shown as mean  $\pm$  SEM. \*P < 0.05, \*\*P < 0.01, \*\*\*\*P < 0.0001. Image collected and cropped by CiteAb from the following open publication (<https://pubmed.ncbi.nlm.nih.gov/36548062>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.

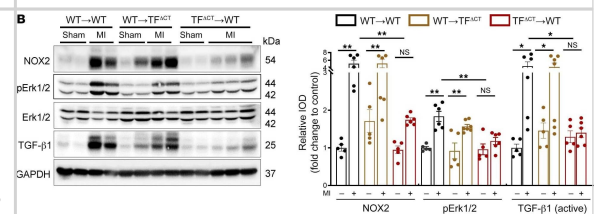
A profibrotic MEK1/2–TGF- $\beta$ 1 pathway is linked to PAR2-mediated ROS signaling in monocytes. (A and B) Protein expression analysis of monocytes isolated from WT mice and pretreated in vitro with trametinib (10  $\mu$ M) for 1 hour (A), or isolated from PAR2 $^{-/-}$  versus WT mice (B). Cells were stimulated with an inflammatory cytokine cocktail containing IL-6, TNF- $\alpha$ , and CCL2 at a concentration of 20 ng/mL with and without hypoxia for 4 hours. Western blotting of p-ERK1/2 (normalized to total ERK1/2) and activated TGF- $\beta$ 1 (normalized to GAPDH). Ordinary 1-way ANOVA, Šidak's multiple-comparison test; n = 5 replicates (2–3 mice were pooled for each sample). (C–E) PAR2 $^{fl/fl}$  and PAR2 $^{fl/fl}$  LysM $^{Cre}$  littermates were subjected to permanent LAD ligation and investigated after 7 days; n = 5–10 animals per group. (C) Western blot analysis of activated TGF- $\beta$ 1 (normalized to GAPDH) and p-SMAD2 (normalized to total SMAD2) in the infarcted myocardium. Representative blots and quantification of biological replicates. (D) High-frequency ultrasound echocardiography obtained from PAR2 $^{fl/fl}$  LysM $^{Cre}$  and PAR2 $^{fl/fl}$  littermate control mice with measurement of LVEF (%) and LVEDV ( $\mu$ L). Mann-Whitney test. (E) Kaplan-Meier survival analysis of permanently LAD-ligated PAR2 $^{fl/fl}$  LysM $^{Cre}$  and PAR2 $^{fl/fl}$  littermate control mice over 7 days. Log-rank (Mantel-Cox) test. (F) Sirius red staining and deconvoluted images of fibrotic area on paraffin-embedded heart sections 4 weeks after permanent LAD ligation to induce IHF. Representative images and quantification of fibrotic areas normalized to surface area. Unpaired, 2-sided t test; n = 5 animals per group. Data are shown as mean  $\pm$  SEM. \*P < 0.05, \*\*P < 0.01, \*\*\*\*P < 0.0001. Image collected and cropped by CiteAb from the following open publication (<https://pubmed.ncbi.nlm.nih.gov/36548062>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



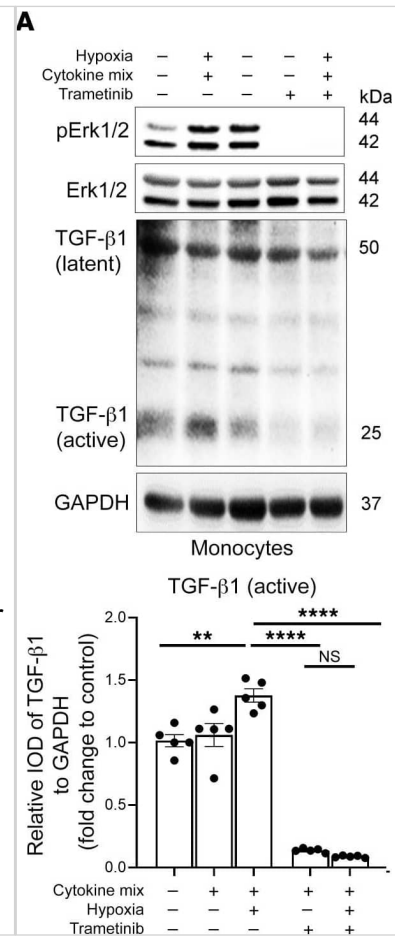
Myeloid cell-derived TF-PAR2 complex is required for TGF- $\beta$ 1 activation. (A) Confocal microscopy of myocardial cryosections obtained from  $n = 5$  sham-operated and  $n = 5$  LAD-ligated WT (C57BL/6J) mice at day 7. Representative images and quantification of TF+ cells costained for CD45. Unpaired, 2-sided t test. Scale bar: 50  $\mu$ m. (B–D) TFfl/fl LysMCre and TFfl/fl littermates were subjected to permanent LAD ligation versus sham surgery and investigated after 7 days;  $n = 5$ –7 animals per group. (B) Protein expression analysis of p-ERK1/2 (normalized to total ERK1/2) in the infarcted myocardium. Ordinary 1-way ANOVA, Šidak's multiple-comparison test. (C) Western blot analysis of activated TGF- $\beta$ 1 (normalized to GAPDH) and p-SMAD2 (normalized to total SMAD2) in the infarcted myocardium obtained from TFfl/fl LysMCre and TFfl/fl littermates. Representative blots and quantification of biological replicates. (D) High-frequency ultrasound echocardiography obtained from TFfl/fl LysMCre and TFfl/fl littermates. Ordinary 1-way ANOVA, Šidak's multiple-comparison test. (E) Sirius red staining and deconvoluted images of fibrotic area on paraffin-embedded heart sections 4 weeks after permanent LAD ligation to induce IHF versus sham surgery. Representative images and quantification of fibrotic areas normalized to surface area. Ordinary 1-way ANOVA, Šidak's multiple-comparison test;  $n = 5$  animals per group. (F) Kaplan-Meier survival analysis of permanently LAD-ligated TFfl/fl LysMCre and TFfl/fl littermate mice over 4 weeks. Log-rank (Mantel-Cox) test;  $n = 10$ –15 animals per group. Data are shown as mean  $\pm$  SEM. \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.001$ . Image collected and cropped by CiteAb from the following open publication (<https://pubmed.ncbi.nlm.nih.gov/36548062>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Myeloid cell TF cytoplasmic domain phosphorylation mediates ERK1/2–TGF- $\beta$ 1–dependent cardiac remodeling in permanent LAD ligation. (A) Confocal microscopy of myocardial cryosections obtained from WT (C57BL/6J) and TF $\Delta$ CT mice. Representative images and quantification of MFI of Ly6C+TGF- $\beta$ 1+ and CD31+TGF- $\beta$ 1+ cells. Ordinary 1-way ANOVA, Šidak's multiple-comparison test;  $n = 5$  animals per group. Scale bars: 25  $\mu$ m. (B) Mice with transplanted BM were subjected to permanent LAD ligation versus sham surgery and investigated 7 days later. Western blot analysis of NOX2 (normalized to GAPDH), p-ERK1/2 (normalized to total ERK1/2), and TGF- $\beta$ 1 (normalized to GAPDH) in infarcted myocardium obtained from chimeric mice. Ordinary 1-way ANOVA, Šidak's multiple-comparison test;  $n = 5$ –7 animals per group. Data are shown as mean  $\pm$  SEM. \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.001$ . Image collected and cropped by CiteAb from the following open publication (<https://pubmed.ncbi.nlm.nih.gov/36548062>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



A profibrotic MEK1/2–TGF- $\beta$ 1 pathway is linked to PAR2-mediated ROS signaling in monocytes. (A and B) Protein expression analysis of monocytes isolated from WT mice and pretreated in vitro with trametinib (10  $\mu$ M) for 1 hour (A), or isolated from PAR2 $^{-/-}$  versus WT mice (B). Cells were stimulated with an inflammatory cytokine cocktail containing IL-6, TNF- $\alpha$ , and CCL2 at a concentration of 20 ng/mL with and without hypoxia for 4 hours. Western blotting of p-ERK1/2 (normalized to total ERK1/2) and activated TGF- $\beta$ 1 (normalized to GAPDH). Ordinary 1-way ANOVA, Šidak's multiple-comparison test; n = 5 replicates (2–3 mice were pooled for each sample). (C–E) PAR2 $^{fl/fl}$  and PAR2 $^{fl/fl}$  LysMCre littermates were subjected to permanent LAD ligation and investigated after 7 days; n = 5–10 animals per group. (C) Western blot analysis of activated TGF- $\beta$ 1 (normalized to GAPDH) and p-SMAD2 (normalized to total SMAD2) in the infarcted myocardium. Representative blots and quantification of biological replicates. (D) High-frequency ultrasound echocardiography obtained from PAR2 $^{fl/fl}$  LysMCre and PAR2 $^{fl/fl}$  littermate control mice with measurement of LVEF (%) and LVEDV ( $\mu$ L). Mann-Whitney test. (E) Kaplan-Meier survival analysis of permanently LAD-ligated PAR2 $^{fl/fl}$  LysMCre and PAR2 $^{fl/fl}$  littermate control mice over 7 days. Log-rank (Mantel-Cox) test. (F) Sirius red staining and deconvoluted images of fibrotic area on paraffin-embedded heart sections 4 weeks after permanent LAD ligation to induce IHF. Representative images and quantification of fibrotic areas normalized to surface area. Unpaired, 2-sided t test; n = 5 animals per group. Data are shown as mean  $\pm$  SEM. \*P < 0.05, \*\*P < 0.01, \*\*\*\*P < 0.0001. Image collected and cropped by CiteAb from the following open publication (<https://pubmed.ncbi.nlm.nih.gov/36548062>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



## Publications

Abdelhady R, Sayed R, Younis N et al. Targeting JNK1/2 and P38 Mitogen-Activated Protein Kinases With Pazopanib Mitigates Bleomycin-Induced Lung Fibrosis *Archiv der Pharmazie* 2025-09-28 [PMID: 41017227]

Son M, Yim H, Lee Y et al. Pre- and Postnatal Fine Particulate Matter Exposure and Renal Fibrogenesis in Adult Male Rats: The Role of Vitamin D Supplementation. *Current issues in molecular biology* 2025-05-22 [PMID: 40699786]

Wu X, Shen Q, Chang H et al. Promoted CD4(+) T cell-derived IFN- $\gamma$ /IL-10 by photobiomodulation therapy modulates neurogenesis to ameliorate cognitive deficits in APP/PS1 and 3xTg-AD mice *Journal of Neuroinflammation* 2022-10-10 [PMID: 36217178]

Z Shen, W Luo, B Tan, K Nie, M Deng, S Wu, M Xiao, X Wu, X Meng, T Tong, C Zhang, K Ma, Y Liao, J Xu, X Wang *Roseburia intestinalis* stimulates TLR5-dependent intestinal immunity against Crohn's disease *EBioMedicine*, 2022-09-28;85(0):104285. 2022-09-28 [PMID: 36182776]

Lang M, Krump C, Meshcheryakova A et al. Microenvironmental and cell intrinsic factors governing human cDC2 differentiation and monocyte reprogramming *Frontiers in Immunology* 2023-07-19 [PMID: 37539048]

Garlapati V, Molitor M, Michna T et al. Targeting myeloid cell coagulation signaling blocks MAP kinase/TGF- $\beta$ 1-driven fibrotic remodeling in ischemic heart failure *Journal of Clinical Investigation* 2023-02-15 [PMID: 36548062]

Esmail MM, Saeed NM, Hanna DMF et al. Hepatoprotective and neuroprotective effects of quinacrine against bile duct ligation-induced hepatic encephalopathy in rats: Role of bone morphogenetic proteins signaling *Life Sci* 2024-11-12 [PMID: 39537098]

Mousset A, Lecorgne E, Bourget I et al. Neutrophil extracellular traps formed during chemotherapy confer treatment resistance via TGF- $\beta$  activation *Cancer cell* 2023-04-10 [PMID: 37037615] (WB, Mouse)

Mohamed MZ, Abed El Baky MF, Ali ME, Hafez HM Aprepitant exerts anti-fibrotic effect via inhibition of TGF- $\beta$ /Smad3 pathway in bleomycin-induced pulmonary fibrosis in rats *Environmental toxicology and pharmacology* 2022-08-02 [PMID: 35931359] (IHC-P, Rat)

Details:  
1:100 IHC-P

Griffin J, Krolikowski J, Kounga K et al. Red Light Mitigates the Deteriorating Placental Extracellular Matrix in Late Onset of Preeclampsia and Improves the Trophoblast Behavior *Journal of Pregnancy* 2022-04-20 [PMID: 35494491] (IHC-Fr, Human)

Malik MNH, Waqas SFH, Zeitvogel J et al. Congenital deficiency reveals critical role of ISG15 in skin homeostasis *The Journal of clinical investigation* 2021-11-30 [PMID: 34847081] (IF/IHC, Human)

Sholqamy M TGF- $\beta$  Paradox and the Progression of Osteoblastoma versus Osteosarcoma. *Egyptian Dental Journal* 2021-10-01

More publications at <http://www.novusbio.com/NBP2-22114>



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info.EMEA@bio-techne.com

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Orders: nb-customerservice@bio-techne.com  
General: novus@novusbio.com

### **Products Related to NBP2-22114**

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NBP2-33376H	Blue Marker Antibody (6F4-F6) [HRP]
HAF007	Goat anti-Mouse IgG Secondary Antibody [HRP]
NB7539	Goat anti-Mouse IgG (H+L) Secondary Antibody [HRP]
NBP1-97005-0.5mg	Mouse IgG1 Isotype Control (MG1)

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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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