Product Datasheet

TAZ/WWTR1 Antibody - BSA Free
NB110-58359

Unit Size: 0.1 ml

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

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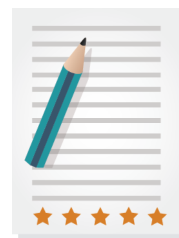


NB110-58359

TAZ/WWTR1 Antibody - BSA Free

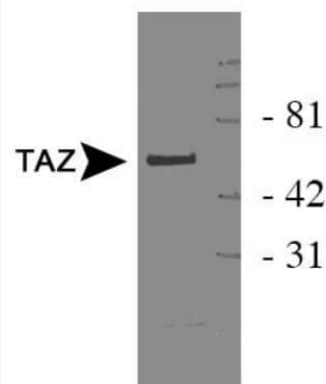
Product Information	
Unit Size	0.1 ml
Concentration	1.0 mg/ml
Storage	Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.02% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	PBS

Product Description	
Host	Rabbit
Gene ID	25937
Gene Symbol	WWTR1
Species	Human, Mouse, Rat
Immunogen	Synthetic peptides made to the human TAZ protein. These peptides were selected for the lack of homology to YAP protein. [UniProt# Q9GZV5]

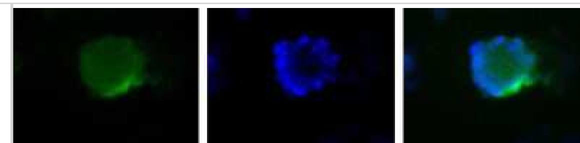
Product Application Details	
Applications	Western Blot, Simple Western, Chromatin Immunoprecipitation, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin, Immunoprecipitation, Proximity Ligation Assay, Chromatin Immunoprecipitation (ChIP)
Recommended Dilutions	Western Blot 1:1000-1:5000, Simple Western 1:100, Chromatin Immunoprecipitation reported in scientific literature (PMID 25587023), Immunohistochemistry 1:500, Immunocytochemistry/ Immunofluorescence 1:50-1:200, Immunoprecipitation 1:100, Immunohistochemistry-Paraffin 1:500. Use reported in scientific literature (PMID 25587023), Proximity Ligation Assay reported in scientific literature (PMID 25587023), Chromatin Immunoprecipitation (ChIP)
Application Notes	In Simple Western only 10 - 15 uL of the recommended dilution is used per data point. Separated by Size-Wes, Sally Sue/Peggy Sue.

Images

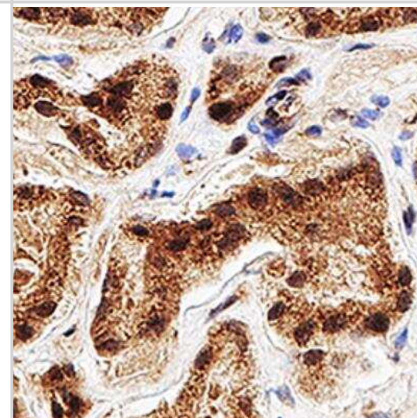
Western Blot: TAZ/WWTR1 Antibody [NB110-58359] - Detection of TAZ on HEK 293 cell lysate using NB110-58359.



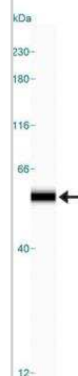
Immunocytochemistry/Immunofluorescence: TAZ/WWTR1 Antibody [NB110-58359] - Detection of TAZ (Green) in HepG2 cells using NB110-58359. Nuclei (Blue) are counterstained with Hoecsht 33258.



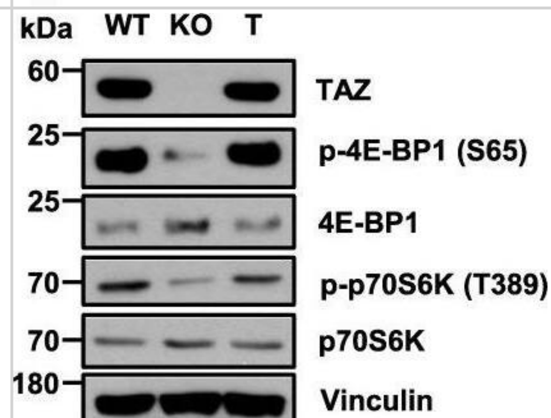
Immunohistochemistry-Paraffin: TAZ/WWTR1 Antibody [NB110-58359] - IHC analysis of formalin fixed paraffin-embedded (FFPE) human kidney using TAZ/WWTR1 antibody at 1:500 on a Bond Rx autostainer (Leica Biosystems). The assay involved 20 minutes of heat induced antigen retrieval (HIER) using 10mM sodium citrate buffer (pH 6.0) and endogenous peroxidase quenching with peroxide block. The sections were incubated with primary antibody for 30 minutes and Bond Polymer Refine Detection (Leica Biosystems) with DAB was used for signal development followed by counterstaining with hematoxylin. Whole slide scanning and capturing of representative images was performed using Aperio AT2 (Leica Biosystems). Nuclear and cytoplasmic staining was observed. Staining was performed by Histowiz.

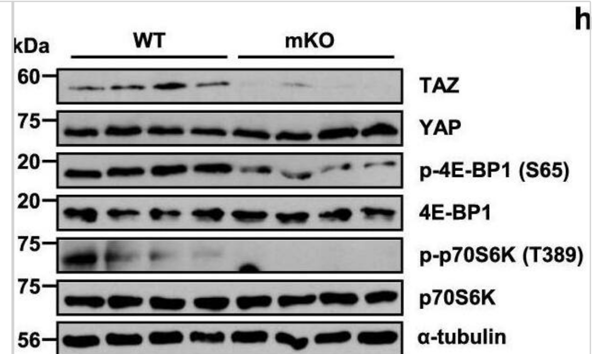
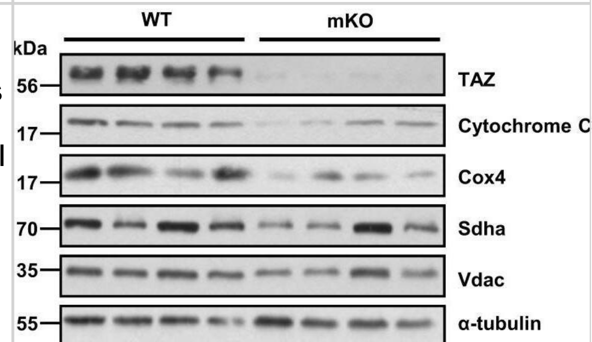


Simple Western: TAZ/WWTR1 Antibody [NB110-58359] - Simple Western lane view shows a specific band for TAZ in 0.5 mg/ml of HeLa lysate. This experiment was performed under reducing conditions using the 12-230 kDa separation system.

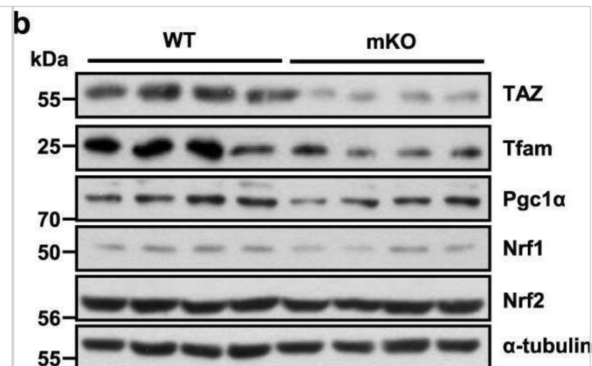


Percent of EPCs (CD133 + CD34 +) reduced in the XYK group detected by flow cytometry. Data are mean ± SD analyzed by one-way analysis of variance. □□P < 0.01. CSDH, chronic subdural hematoma; EPC, endothelial progenitor cell; XYK, Xiaoyukang Jiaonang. Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/32328124), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



The expression of BDNF-TrkB signaling in the SDH of CYP-induced cystitis. a Changes of the mechanical threshold in CYP-induced cystitis model. Compared to that in the control group, the mechanical threshold of the cystitis group decreased significantly after the CYP injection and remained low until day 17, and the minimum threshold value was reached on day 12. The expression of b BDNF, c TrkB, and dp-TrkB were evaluated by western blots. Compared to the control group, they were upregulated on days 8, 12, and 17. e Immunofluorescence double staining assay of BDNF and p-TrkB in the SDH. BDNF and p-TrkB (red), NeuN, GFAP, and OX-42(green), co-localization (yellow). BDNF was mainly colocalized in neurons which mainly located in Laminate II to IV. And TrkB receptors expressed in neurons, microglia, and astrocytes. The white dotted lines in picture “BDNF/NeuN” showed the laminate of the SDH according to Rexed and Steiner. Scale bar = 100 μm. All data were calculated as mean ± SEM (n = 5 per group). *p < 0.05, ** p < 0.01, *** p < 0.001 vs. the control group Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/31931832), licensed under a CC-BY license. Not internally tested by Novus Biologicals.	
Periodontitis-derived periodontal ligament cells and tissues were at high levels of oxidative stress and apoptosis. (a) The related gene expressions of oxidative stress, apoptosis, and some of the TRP families in healthy and periodontitis-derived periodontal ligament cells (PDLCs and P-PDLCs) (n = 3). (b, c) Western blot and semiquantitative statistical analysis of oxidative stress, apoptosis, and TRPA1 in PDLCs and P-PDLCs. (n = 3). d, Flow cytometry analysis of PDLCs and P-PDLCs (n = 4). (e, f) H&E staining (white star represent immune cell infiltration), immunohistochemistry and immunofluorescence staining, and semiquantitative statistical analysis of periodontitis and healthy derived periodontal ligament tissues (PDLTs and P-PDLTs) (n = 3). Data analysis was performed by using Student's t-test (□P < 0.05, □□P < 0.01, and □□□P < 0.001). The data are presented as the mean ± SEM. Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/35720191), licensed under a CC-BY license. Not internally tested by Novus Biologicals.	

Subcellular localization of BEST1 and surface Ca2+-dependent Cl- current in patient-derived iPSC-RPEs.(A) Western blots show similar BEST1 expression levels in WT and patient-derived iPSC-RPEs. Each sample was from one cell lysis (BEST1 and β-actin, RPE65 and CRALBP were on two gels, respectively). (B) Confocal images showing diminished plasma membrane localizations of BEST1 P274R, and normal plasma membrane localization of BEST1 I201T. Scale bar,15 µm. (C) Representative current traces recorded from patient iPSC-RPEs at 1.2 µM [Ca2+]i. Scale bar, 500 pA, 150 ms. (D) Population steady-state current-voltage relationships in BEST1 WT (●), P274R (▲) and I201T (▼) iPSC-RPEs at 1.2 µM [Ca2+]i; n = 5–6 for each point. □p<0.05 (2 × 10−7 for P274R and 6 × 10−4 for I201T) compared to WT using two-tailed unpaired Student t test. Insert, confocal images showing P274R iPSC-RPE in bright field. Scale bar,10 µm. (E) CaCC currents in BEST1 P274R patient iPSC-RPE were rescued by complementation with WT BEST1-GFP. Complementation (▲, n = 5–6 for each point), compared to BEST1 P274R (▲, n = 3–5 for each point), and WT (●). The plots were fitted to the Hill equation. Insert, confocal images showing P274R iPSC-RPE complemented with WT BEST1-GFP expressed from a BacMam baculoviral vector. Scale bar,10 µm. (F) Ca2+-dependent currents in BEST1 I201T iPSC-RPE (▼) compared to WT iPSC-RPE (●). Steady-state current density recorded at +100 mV plotted vs. free [Ca2+]i; n = 5–6 for each point. The plots were fitted to the Hill equation. See also Figure 4—figure supplement 1 and Figure 1—source data 1.CaCC currents in BEST1 patient iPSC-RPEs.(A–C) P274R patient iPSC-RPE were rescued by complementation with WT BEST1-GFP at 1.2 µM [Ca2+]i. (A) Representative current traces recorded from P274R patient iPSC-RPE over-expressing WT BEST1-GFP. Scale bar, 1 nA, 100 ms. (B) Population steady-state current-voltage relationships in BEST1-GFP complementation (▲), compared to BEST1 P274R (▲) and WT (●); n = 5–6 for each point. #p<0.05 compared to WT (2 × 10−7) or complementation (0.01) using one-way ANOVA and Bonferroni post hoc analyses. (C) Bar chart showing the steady-state current amplitudes at 1.2 µM [Ca2+]i and 1.2 µM [Ca2+]i +100µM NFA in P274R patient iPSC-RPE over-expressing BEST1-GFP; n = 5–6. □p<0.05 compared to current amplitudes at 1.2 µM [Ca2+]i, using two-tailed unpaired Student t test. (D) Normalized Ca2+-dependent currents in BEST1 I201T iPSC-RPE (▼) compared to WT iPSC-RPE (●). The plots were fitted to the Hill equation. Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/29063836), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications
Kegelman CD, Nijsure MP, Moharrer Y et al. YAP and TAZ Promote Periosteal Osteoblast Precursor Expansion and Differentiation for Fracture Repair Journal of Bone and Mineral Research 2021-01-01 [PMID: 32835424] (IHC, ICC/IF)
Leonard BC, Park S, Kim S et al. Mice Deficient in TAZ (Wwtr1) Demonstrate Clinical Features of Late-Onset Fuchs' Endothelial Corneal Dystrophy Investigative ophthalmology & visual science 2023-04-03 [PMID: 37074694] (IHC, Human)
Wu M, Matar DY, Yu Z et al. Continuous NPWT Regulates Fibrosis in Murine Diabetic Wound Healing Pharmaceutics 2022-10-06 [PMID: 36297560] (IHC-P, Mouse)
Hwang JH, Kim KM, Oh HT et al. TAZ links exercise to mitochondrial biogenesis via mitochondrial transcription factor A Nature communications 2022-02-03 [PMID: 35115527] (Chemotaxis, Mouse)
Das A, Adhikary S, Chowdhury AR Et al. Leveraging Substrate Stiffness to Promote Stem Cell Asymmetric Division via Mechanotransduction-Polarity Protein Axis and Its Bayesian Regression Analysis Rejuvenation Res 2022-03-22 [PMID: 35316074] (ICC/IF) Details: Citation using the Texas Red version of this antibody.
Luu A, Yao Z, Ramachandran S Et al. A CRISPR Activation Screen Identifies an Atypical Rho GTPase That Enhances Zika Viral Entry Viruses 2021-10-20 [PMID: 34834920]
Van Sciver N, Ohashi M, Pauly NP Et al. Hippo signaling effectors YAP and TAZ induce Epstein-Barr Virus (EBV) lytic reactivation through TEADs in epithelial cells PLoS pathogens 2021-08-01 [PMID: 34339458] (WB, Human)
Li W, Zhao J, Wang J et al. ROCK-TAZ signaling axis regulates mechanical tension-induced osteogenic differentiation of rat cranial sagittal suture mesenchymal stem cells J. Cell. Physiol. 2020-01-22 [PMID: 31970784] (WB, IP, Rat)
Kegelman CD, Coulombe JC, Jordan KM et al. YAP and TAZ Mediate Osteocyte Perilacunar/Canalicular Remodeling J. Bone Miner. Res. 2019-10-14 [PMID: 31610061] (Mouse)
Hwang JH, Kim AR, Kim KM et al. TAZ couples Hippo/Wnt signalling and insulin sensitivity through Irs1 expression. Nat Commun 2019-01-24 [PMID: 30679431] (Chemotaxis, Mouse)
Yu B, Huo L, Liu Y et al. PGC-1a Controls Skeletal Stem Cell Fate and Bone-Fat Balance in Osteoporosis and Skeletal Aging by Inducing TAZ. Cell Stem Cell. 2018-07-03 [PMID: 30017591] (WB, ICC/IF, IHC-P, Mouse)
Wu LMN, Deng Y, Wang J, Zhao C. Programming of Schwann Cells by Lats1/2-TAZ/YAP Signaling Drives Malignant Peripheral Nerve Sheath Tumorigenesis. Cancer Cell. 2018-02-12 [PMID: 29438698] (Human)
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Procedures

Western Blot Protocol for TAZ/WWTR1 Antibody (NB110-58359)
Western Blot Protocol

1. Perform SDS-PAGE on samples to be analyzed, loading 10-25 ug of total protein per lane.
2. Transfer proteins to PVDF membrane according to the instructions provided by the manufacturer of the membrane and transfer apparatus.
3. Stain the membrane with Ponceau S (or similar product) to assess transfer success, and mark molecular weight standards where appropriate.
4. Rinse the blot TBS -0.05% Tween 20 (TBST).
5. Block the membrane in 5% Non-fat milk in TBST (blocking buffer) for at least 1 hour.
6. Wash the membrane in TBST three times for 10 minutes each.
7. Dilute primary antibody in blocking buffer and incubate overnight at 4C with gentle rocking.
8. Wash the membrane in TBST three times for 10 minutes each.
9. Incubate the membrane in diluted HRP conjugated secondary antibody in blocking buffer (as per manufacturer's instructions) for 1 hour at room temperature.
10. Wash the blot in TBST three 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 manufacturer's instructions.

Immunocytochemistry/Immunofluorescence Protocol for TAZ/WWTR1 Antibody (NB110-58359)
Immunocytochemistry Protocol

Culture cells to appropriate density in 35 mm culture dishes or 6-well plates.

1. Remove culture medium and wash the cells briefly in PBS. Add 10% formalin to the dish and fix at room temperature for 10 minutes.
2. Remove the formalin and wash the cells in PBS.
3. Permeablize the cells with 0.1% Triton X100 or other suitable detergent for 10 min.
4. Remove the permeablization buffer and wash three times for 10 minutes each in PBS. Be sure to not let the specimen dry out.
5. To block nonspecific antibody binding, incubate in 10% normal goat serum from 1 hour to overnight at room temperature.
6. Add primary antibody at appropriate dilution and incubate overnight at 4C.
7. Remove primary antibody and replace with PBS. Wash three times for 10 minutes each.
8. Add secondary antibody at appropriate dilution. Incubate for 1 hour at room temperature.
9. Remove secondary antibody and replace with PBS. Wash three times for 10 minutes each.
10. Counter stain DNA with DAPi if required.

Immunohistochemistry-Paraffin Protocol for TAZ/WWTR1 Antibody (NB110-58359)
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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NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control

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