Product Datasheet

TRF-1 Antibody (57-6) - BSA Free
NB110-68281

Unit Size: 0.1 ml

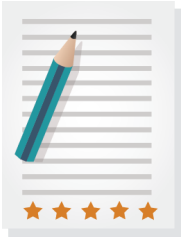
Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

www.novusbio.com technical@novusbio.com

Publications: 7

Protocols, Publications, Related Products, Reviews, Research Tools and Images at:
www.novusbio.com/NB110-68281

Updated 9/9/2025 v.20.1



NB110-68281

TRF-1 Antibody (57-6) - BSA Free

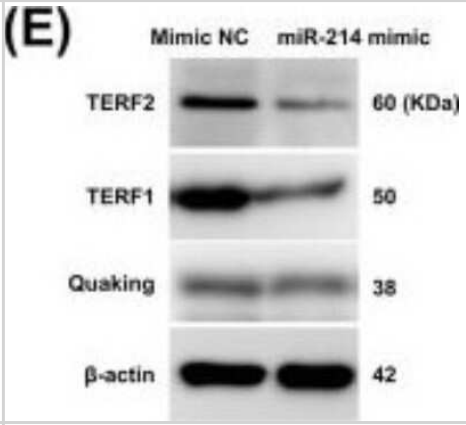
Product Information	
Unit Size	0.1 ml
Concentration	1.0 mg/ml
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Monoclonal
Clone	57-6
Preservative	0.05% Sodium Azide
Isotype	IgG1 Kappa
Purity	Protein G purified
Buffer	Tris-Glycine, 0.15M NaCl
Target Molecular Weight	60 kDa

Product Description	
Description	Novus Biologicals Mouse TRF-1 Antibody (57-6) - BSA Free (NB110-68281) is a monoclonal antibody validated for use in WB, ELISA, Flow, ICC/IF and Simple Western. Anti-TRF-1 Antibody: Cited in 6 publications. All Novus Biologicals antibodies are covered by our 100% guarantee.
Host	Mouse
Gene ID	7013
Gene Symbol	TERF1
Species	Human, Mouse, Rat, Monkey
Marker	Telomere Marker
Immunogen	Recombinant human TRF1 [UniProt# P54274]

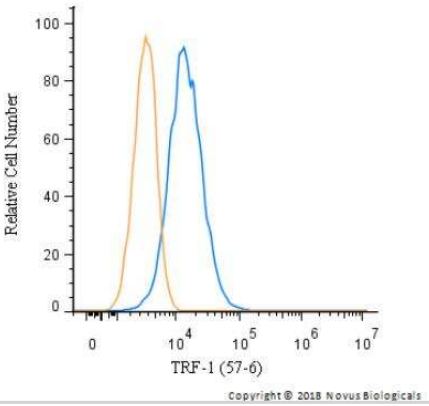
Product Application Details	
Applications	Western Blot, Simple Western, ELISA, Flow Cytometry, Immunocytochemistry/ Immunofluorescence
Recommended Dilutions	Western Blot 0.5 ug/ml, Simple Western 1:200, Flow Cytometry 1 ug per million cells, ELISA 1:100 - 1:2000, Immunocytochemistry/ Immunofluorescence 2 ug/ml
Application Notes	This TRF1 antibody is useful for ELISA and Western blot, where a band can be seen at approx. 60 kDa. In Simple Western only 10 - 15 uL of the recommended dilution is used per data point. See Simple Western Antibody Database for Simple Western validation: Tested in HeLa lysate 0.5 mg/mL, separated by Size, antibody dilution of 1:200, apparent MW was 60 kDa. Separated by Size-Wes, Sally Sue/Peggy Sue. The observed molecular weight of the protein may vary from the listed predicted molecular weight due to post translational modifications, post translation cleavages, relative charges, and other experimental factors.

Images

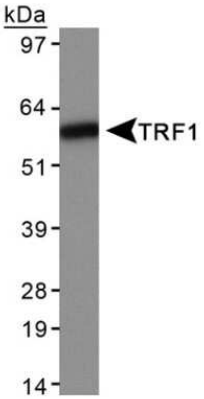
Western Blot: TRF-1 Antibody (57-6) [NB110-68281] - MicroRNA-214-3p (miR-214) mimic in rat vascular smooth muscle cells (A7r5) suppressed angiogenesis and proliferation but promoted senescence. Representative western blots depicting TERF1, TERF2, and quaking expression in mimic NC or miR-214 mimic transfected cells. Image collected and cropped by CiteAb from the following publication (https://molmed.biomedcentral.com/articles/10.1186/s10020-020-00167-1), licensed under a CC-BY license.



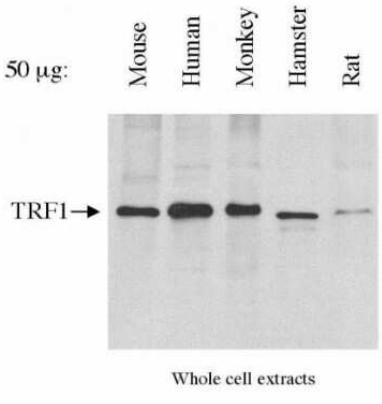
Flow Cytometry: TRF-1 Antibody (57-6) [NB110-68281] - An intracellular stain was performed on HeLa with NB110-68281 (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeablized with 0.1% saponin. Cells were incubated in an antibody dilution of 2.5 ug/mL for 30 minutes at room temperature, followed by mouse F(ab)2 IgG (H+L) APC-conjugated secondary antibody (F0101B, R&D Systems).

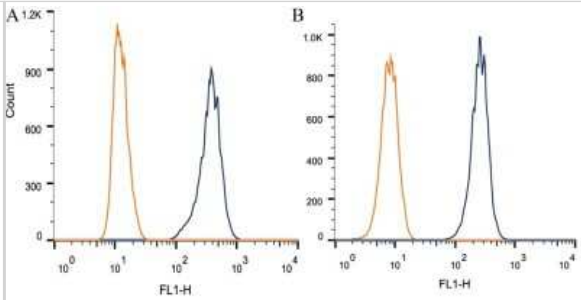
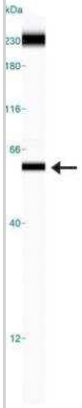
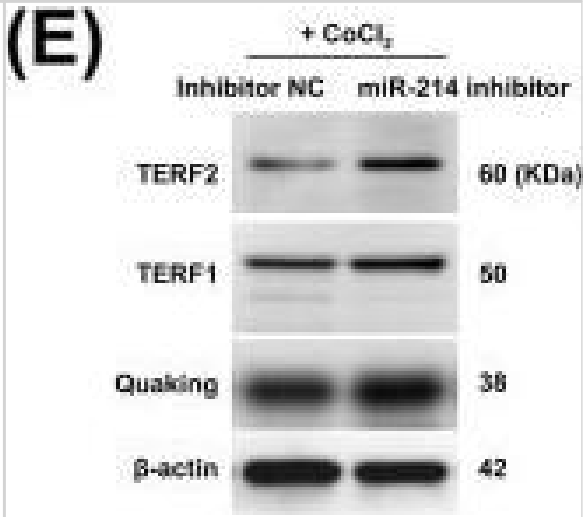


Western Blot: TRF-1 Antibody (57-6) [NB110-68281] - Detection of TRF1 in HeLa whole cell extracts.



Western Blot: TRF-1 Antibody (57-6) [NB110-68281] - Detection of TRF1. 50 ug of total lysate each lane.



Flow Cytometry: TRF-1 Antibody (57-6) [NB110-68281] - Intracellular flow cytometric staining of 1 x 10^6 CHO (A) and HEK-293 (B) cells using TRF1 antibody (dark blue). Isotype control shown in orange. An antibody concentration of 1 ug/1x10^6 cells was used.	
Simple Western: TRF-1 Antibody (57-6) [NB110-68281] - Image shows a specific band for TRF1 in 0.5 mg/mL of HeLa lysate. This experiment was performed under reducing conditions using the 12-230 kDa separation system.	
Western Blot: TRF-1 Antibody (57-6) [NB110-68281] - MicroRNA-214-3p (miR-214) antagomiR in rat vascular smooth muscle cells (A7r5) induced angiogenesis & proliferation but suppressed senescence. a Schematic of the protocol for transfection of A7r5 VSMCs with a miRNA antagomiR control (antagomiR NC) or a miR-214 antagomiR & processed at the indicated times. b The effects of miR-214 antagomiR on VSMC cell proliferation were tested by CCK-8 assay. c Angiogenetic mRNA expression levels of NOS3, VEGFA, CXCL12 & CXCR4 compared in cells transfected with antagomiR NC or miR-214 antagomiRs (n = 3). d Senescence-associated mRNA expression of TERT, TERF1 & TERF2 compared in cells transfected with antagomiR NC or miR-214 antagomiRs (n = 3). e, G Representative western blots depicting TERF1, TERF2, p16INK4, p21CIP1, pRB, & quaking expression in antagomiR NC or miR-214 antagomiRs transfected cells. f, h Normalized expression of TERF1, TERF2, p16INK4, p21CIP1, pRB, & quaking (n = 3). i Senescence-associated β-galactosidase staining demonstrating senescence in SCR or miR-214 transfected cells. j Bar graphs show quantification of relative of SA-β-gal positive cells (n = 3). Data are presented as the means ± SEM. * P < 0.05; ** P < 0.01; ns, non-significance (Two-tailed Student's t-test) Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/32410577), licensed under a CC-BY license. Not internally tested by Novus Biologicals.	

Publications

Xu Q, Mojiri A, Boulahouache L et al. Vascular senescence in progeria: role of endothelial dysfunction European Heart Journal Open 2022-07-28 [PMID: 36117952] (Western Blot, Human)

Og?uszka M, Chen CY, Po?awska E et Al. Elevated tissue status of omega-3 fatty acids protects against age-related telomere attrition in fat-1 transgenic mice Clin Nutr 2024-05-06 [PMID: 38718720]

Foglio E, D'Avorio E, Vitiello L et al. Doxorubicin-Induced Cardiac Senescence Is Alleviated Following Treatment with Combined Polyphenols and Micronutrients through Enhancement in Mitophagy Cells 2023-11-10 [PMID: 37998340]

Sharma S, Mukherjee AK, Roy SS et al. Human telomerase is directly regulated by non-telomeric TRF2-G-quadruplex interaction Cell reports 2021-05-18 [PMID: 34010660] (ELISA, Human)

Chen YL, Sheu JJ, Sun CK et al. MicroRNA-214 modulates the senescence of vascular smooth muscle cells in carotid artery stenosis Mol. Med. 2020-05-14 [PMID: 32410577] (WB, Rat)

Sharma S, Mukherjee AK, Roy SS et al. Human Telomerase Expression is under Direct Transcriptional Control of the Telomere-binding-factor TRF2 bioRxiv 2020-01-01

Jullien L, Mestre M, Roux P, Gire V. Eroded human telomeres are more prone to remain uncapped and to trigger a G2 checkpoint response Nucleic Acids Res 2012-11-27 [PMID: 23193277] (WB, Human)

Procedures

Western Blot Protocol for TRF1 Antibody (NB110-68281)
TRF-1 Antibody (57-6):
Western Blot Protocol

1. Perform SDS-PAGE (4-12% MOPS) on samples to be analyzed, loading 25 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 dH2O 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% BSA in TBS + Tween, 1 hour at RT.
6. Rinse the membrane in dH2O and then wash the membrane in wash buffer [TBS + 0.1% Tween] 3 times for 10 minutes each.
7. Dilute the mouse anti-TRF1 primary antibody (NB 110-68281) in blocking buffer and incubate 1 hour at room temperature.
8. Rinse the membrane in dH2O and then wash the membrane in wash buffer [TBS + 0.1% Tween] 3 times for 10 minutes each.
9. Apply the diluted mouse-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.

Immunocytochemistry/Immunofluorescence Protocol for TRF-1 Antibody (NB110-68281)
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.

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 NB110-68281

NB800-PC1	HeLa Whole Cell Lysate
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]
NBP1-43319-0.5mg	Mouse IgG1 Kappa Isotype Control (P3.6.2.8.1)

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/NB110-68281

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