

TRF2 Monoclonal Antibody (4A794.15)

Catalog NumberMA1-41001

Product data sheet

Details		Species Reactivity	
Size	100 µg	Species reactivity	Deer, Human, Marsupial, Mouse, Rat
Host/Isotope	Mouse / IgG1, kappa	Published species	Mouse, Human, Not Applicable
Class	Monoclonal	Tested Applications	
Type	Antibody	ChIP assay (ChIP)	Dilution *1:10-1:500
Clone	4A794.15	ELISA (ELISA)	2 µg/mL
Immunogen	Full-length TRF2 protein.	Flow Cytometry (Flow)	0.1 µg per million cells
Conjugate	Unconjugated	Immunohistochemistry (Frozen) (IHC (F))	5 µg/mL
Form	Liquid	Immunohistochemistry (Paraffin) (IHC (P))	Assay-Dependent
Concentration	1 mg/mL	Immunoprecipitation (IP)	2 µg per million cells
Purification	Protein G	Western Blot (WB)	2-4 µg/mL
Storage buffer	PBS	in situ PLA (PLA)	Assay-Dependent
Contains	0.05% sodium azide	Immunocytochemistry (ICC/IF)	1:10-1:500
Storage Conditions	Store at 4°C short term. For long term storage, store at -20°C, avoiding freeze/thaw cycles.	Published Applications	
		Western Blot (WB)	See 2 publications below
		Flow Cytometry (Flow)	See 1 publications below

* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.

Product specific information

The TRF2 antibody is referred to as both clone 4A794.15 and 4A794 in the published literature. This antibody recognizes full-length TRF2 as well as TRF2 forms lacking both the N-terminal basic domain (B) and the telobox Myb-like C-terminal DNA-binding domain (M). TRF2 forms missing the B and M domains are often referred to as mutant TRF2.Although the exact epitope recognized by the TRF2 antibody has not been mapped, the scientific literature indicates it is in the D or L domain, but not in the B or M domain. Suggested positive control: HL-60, antigen standard for TERF2 (transient overexpression lysate).

Background/Target Information

TRF2 is a ubiquitously expressed protein that is implicated in the control of telomere length. TRF2, like TRF1 contains a Myb-related DNA binding motif. It binds to duplex TTAGGG repeats and is localized to all human telomeres in metaphase chromosomes. TRF2 is thought to protect chromosome ends by maintaining the correct structure at telomere termini. The use of mutant forms of TRF2 has implicated a role for TRF2 in the prevention of senescence in primary human cells. Recently, it has been shown that inhibition of TRF2 resulted in apoptosis in a subset of mammalian cell types.

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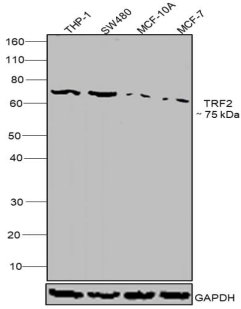
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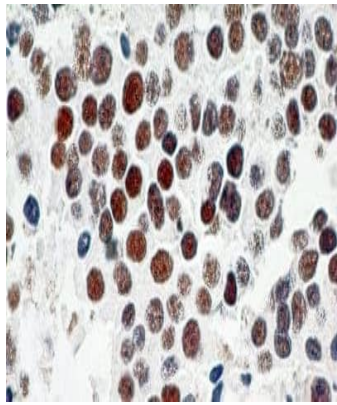
TRF2 Antibody (MA1-41001) in WB

Western blot was performed using Anti-TRF2 Monoclonal Antibody (4A794.15) (Product # MA1-41001) and a 75 kDa band corresponding to TRF2 was observed across all cell lines tested. Modified whole cell extracts (1% SDS) (30 µg lysate) of THP-1 (Lane 1), SW-480 (Lane 2), MCF-10A (Lane 3) and MCF-7 (Lane 4) were electrophoresed using NuPAGE® 4-12 % Bis-Tris gel (Product # NP0321BOX). Resolved proteins were then transferred onto a nitrocellulose membrane (Product # IB23001) by iBlot® 2 Dry Blotting System (Product # IB21001). The blot was probed with the primary antibody (2ug/ml) and detected by chemiluminescence with Goat anti-Mouse IgG (H+L), Superclonal™ Recombinant Secondary Antibody, HRP (Product # A28177, 1:4000 dilution) using the iBright FL 1000 (Product # A32752). Chemiluminescent detection was performed using Novex® ECL Chemiluminescent Substrate Reagent Kit (Product # WP20005).



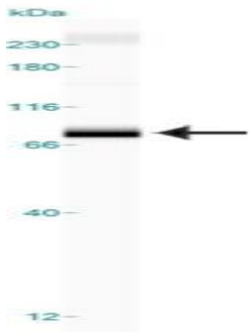
TRF2 Antibody (MA1-41001) in IHC (P)

Immunohistochemical analysis of TRF2 in Transitional cell carcinoma, urinary bladder. Samples were incubated in TRF2 monoclonal antibody (Product # MA1-41001) using a dilution of 4 µg/mL followed by a peroxidase-conjugate and DAB chromogen. Note specific nuclear staining. Tumor/normal adjacent tissue array slide was used for this test. Staining of formalin-fixed tissues is enhanced by boiling tissue sections in 10 mM sodium citrate buffer, pH 6.0 for 10-20 min followed by cooling at RT for 20 min.



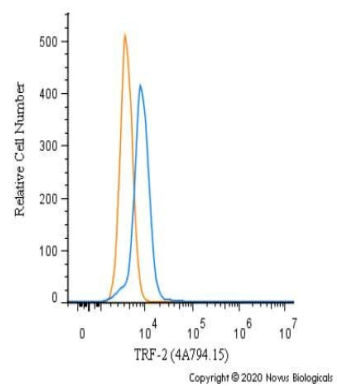
TRF2 Antibody (MA1-41001) in WB

Western blot analysis of TRF2 in 1.0 mg/mL HeLa lysate. Samples were incubated in TRF2 monoclonal antibody (Product # MA1-41001). This experiment was performed under reducing conditions using the 12-230 kDa separation system. Non-specific interaction with the 230 kDa Simple Western standard may be seen with this antibody.



TRF2 Antibody (MA1-41001) in Flow

Flow cytometry of TRF2 in A431 cells. Samples were incubated with TRF2 monoclonal antibody (Product # MA1-41001) using a dilution of 1.0 µg/mL for 30 minutes at room temperature followed by Mouse IgG (H+L) Cross-Adsorbed Secondary Antibody, Dylight 550 (Product # 35503). Antibody (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin.



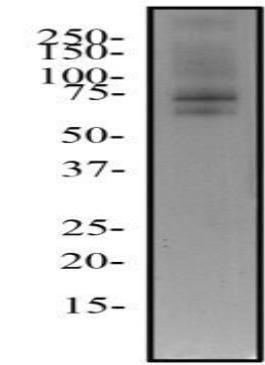
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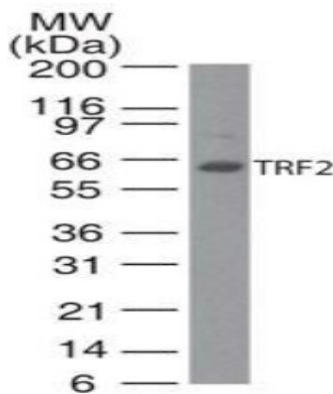
TRF2 Antibody (MA1-41001) in WB

Western blot analysis of TRF2 in total protein from mouse 3T3 cells. Samples were incubated in TRF2 monoclonal antibody (Product # MA1-41001) using a dilution of 2.0 µg/mL followed by an anti-mouse HRP secondary antibody. Separated on a 12% gel by SDS-PAGE, transferred to PVDF membrane and blocked in 5% non-fat milk in TBST. Detection: chemiluminescence.



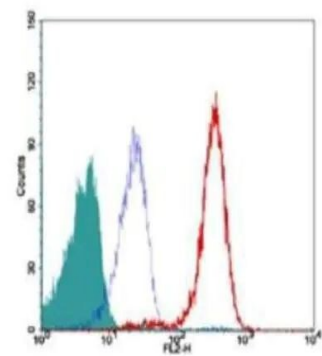
TRF2 Antibody (MA1-41001) in WB

Western blot analysis of TRF2 in human Jurkat cell lysate. Samples were incubated in TRF2 monoclonal antibody (Product # MA1-41001) using a dilution of 2 µg/mL followed by a Goat anti-mouse Ig HRP secondary antibody. PicoTest ECL substrate solution was used.



TRF2 Antibody (MA1-41001) in Flow

Flow cytometry of TRF2 in 10⁶ human Jurkat cells. Samples were incubated in TRF2 monoclonal (Product # MA1-41001) using a dilution of 0.1 µg. The shaded histogram represents cells alone, blue represents isotype control and red represents anti-TRF2.



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PubMed References For TRF2 Monoclonal Antibody (4A794.15)

2 Western Blot References

Species / Dilution	Summary
Human / Not Cited	MA141001 was used in western blot to report the effects of long-term lipopolysaccharide exposure on monocytes
	Toxicology in vitro : an international journal published in association with BIBRA (2017; 42: 1) "Long-term culture with lipopolysaccharide induces dose-dependent cytostatic and cytotoxic effects in THP-1 monocytes." Author(s):Mytych J,Romerowicz-Misielak M,Koziorowski M PubMed Article URL: http://dx.doi.org/10.1016/j.tiv.2017.03.009
Human / Not Cited	MA141001 was used in western blot to show that ROS-induced DNA damage reduces metabolic activity, inhibits proliferation, and induces cell cycle arrest followed by activation of p16-, p21-, and p27- mediated DNA damage response pathways, premature senescence, and apoptosis induction
	Experimental cell research (2017; 350: 358) "Protective role of klotho protein on epithelial cells upon co-culture with activated or senescent monocytes." Author(s):Mytych J,Wos I,Solek P,Koziorowski M PubMed Article URL: http://dx.doi.org/10.1016/j.yexcr.2016.12.013

1 Flow Cytometry References

Species / Dilution	Summary
Mouse / Not Cited	MA1-41001 was used in Flow cytometry/Cell sorting to evaluate the number, viability, phenotype, and function of EPCs in dyslipidemic mice with early diabetes mellitus and EPC infiltration in the aortic valve in order to identify possible therapeutic targets in diabetes-associated cardiovascular disease.
	Cell transplantation (2021; 29:) "Integrins 41 and V3 are Reduced in Endothelial Progenitor Cells from Diabetic Dyslipidemic Mice and May Represent New Targets for Therapy in Aortic Valve Disease." Author(s):Filippi A,Constantin A,Alexandru N,Voicu G,Constantinescu CA,Rebleanu D,Fenyo M,Simionescu D, Simionescu A,Manduteanu I,Georgescu A PubMed Article URL: http://dx.doi.org/10.1177/0963689720946277

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