FabGennix Inc.
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New Item

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Antibodies related to Cell Cycle protiens

Anti- Telomeric Repeat DNA binding Protein 2 (TRF2) antibodies (Cat # TRF2-201AP)

Alternate Nomenclature:

Human telomeres are composed of long sequences of TTAGGG repeats that form a nucleoprotein complex required for the stability, protection and replication of chromosome ends. One component of such human telomeres is the TTAGGG repeat binding factor 1 (TRF1), a ubiquitously expressed protein, related to the proto-oncogene Myb, that is present at telomeres throughout the cell cycle. Natural chromosomal ends are stabilized by proteins that bind duplex telomeric DNA repeats known as TTAGGG repeat Factors. Two independent studies isolated two proteins a 65kDa protein that bind to telomeric DNA and second open reading frame coding for 69kDa protein that binds to telomeric repeat DNA in vitro. These proteins are expressed in HeLa cells and together called TRF2. Affinity purified antibodies to TRF2 binds ro telomeres of intact human chromosomes (1). A stretch of 60 amino acids located at the C-terminal end of the protein is critical for the DNA binding. The region exhibit close homology with Myb repeats and is conserved in several proteins two of which are known to bind telomric repeat sequences. Both TRF1 and TRF2 are ubiquitously expressed, bound specifically to duplex TTAGGG repeats are localized to all human telomeres in metaphase chromosomes. TTAGGG repeat factor 2 (TRF2), is thought to protect telomere ends by remodeling them into T-loops.

Functionally TRF1 controls the telomere length and is proposed to be a telomerase inhibitor acting in cis to limit the telopere elongation of individual chromosome ends. TRF1 has similar architectural structure as of TRF2 both have a Myb motif and a large TRF1-related dimirization domain near its N-terminus. The dimerization domain of TRF1 and TRF2 do not interact suggesting that these two proteins exist as homodimmers. TRF2 specifically interacts with telomeric ss/ds DNA junctions and binding is sensitive to the sequence of the 3', guanine-strand (G-strand) overhang and double-stranded DNA sequence at the junction. Association of TRF2 with DNA junctions hinders cleavage by exonuclease T (2). TRF1 and TRF2 differs at amino terminal end of the proteins, TRF2 being basic rather than acidic as in TRF1 protein (3). The TRF2 also plays a key role in protective activity of telomerase, prevent the end-to-end fusion of telomeres and are implicated in senescence in primary human cells due to shortening of the telomeres.

The TRF2-selective antibodies were generated against peptide form 3 different unique epitopes of the TRF2 protein sequence that is not present in TRF1 or other molecules. FabGennix Inc. has generated epitope specific rabbit anti-TRF2 polyclonal (mono-specific to their respective epitopes specificity) antibodies utilizing linear and cyclic peptide methodology. These antibodies have been fully characterized for cross reactivity with other members of the TRF molecules and with cellular proteins using Western blot analyses. Limited quantities of the antigenic blocking peptide for TRF2 is also available (inquire for availability). FabGennix Int. Inc., has generated antibodies to several other cell cycle related targets, for a complete listing visit www.Fabgennix.com. FabGennix will label these antibodies to fluorophores, enzymes and other reporting molecules at nominal charge.

Catalog #	Host	Description	Antigen/ control	Cross reactivity	Qty
TRF2-201AP	Rabbit	TRF2 Affinity purified Antibody (N-epitope)	Peptide antibody	R, M, H	100ug
TRF2-212AP	Rabbit	TRF2 Affinity purified Antibody (midregion-epitope)	Peptide antibody		
TRF2-221AP	Rabbit	TRF2 Affinity purified Antibody (C-epitope)	Peptide antibody		
P-TRF2-200	n/a	Antigenic blocking peptide for TRF2-201AP antibodies	Synthetic Peptide	n/a	
P-TRF2-210	n/a	Antigenic blocking peptide for TRF2-212AP antibodies	Synthetic Peptide	n/a	US $235
P-TRF2-220	n/a	Antigenic blocking peptide for TRF2-221AP antibodies	Synthetic Peptide	n/a	
*PC-TRF2	n/a	Western blot positive control for TRF2	TRF2 protein	N/A	Inquire

R = rat; M = mouse; H = humans; R = rabbit * Actual volume is 103-110 µl; WB, Western Blot analyses; IMM, Immunoprecipitation; IHC, Immunohistochemistry, n.d, not determine.

Immunogen: Synthetic peptides selected from the unique amino-terminal, mid-region and C-terminal end of the protein (TRF2-1: aa: qld eet qyq tav ees fqv nm), peptide was post-synthetically modified to achieve highest antigenicty before used for coupling to KLH using heterobifunctional cross linker for immunogen preparation.

Concentration: TRIF-101AP = IgG connotation 0.5-0.75 mg/ml.

Applications: ELISA: Antibody dilution 1:20,000 for ELISA or DOT blot assy. W.B: Antibody dilution 1:500-750 for WB using PC-TRAM. IMM: n.d; IHC n.d

Reactivity The antibodies TRIF-101AP label 38 kDa mouse TRIF protein in PC-TRIF samples.

Protocols: Standard protocol for various applications (Western blot; immunoprecipitation and immunohistochemistry) of this antibody is provided with the product specification sheet, however, FabGennix Inc. recommends investigators to optimize conditions.

Form/Storage: The antiserum is supplied in antibody stabilization buffer with preservatives. For long-term storage of antibody, store at -20°C FabGennix Inc. does not recommend storage of very dilute antibody solutions unless they are prepared in specially formulated multi-use antibody dilution buffer (Cat # DiluOBuffer). Working solutions of antibodies in DiluOBuffer should be filtered through 0.45 filter after every use for long-term storage.

Note: Briefly centrifuge to collect liquid, heat PC-TRIF tube in 90oC water bath for 1-2 minutes to dissolve any precipitate before use. This product is "ready-to-use" for electrophoresis. After thawing store at room temperature, Repeated freezing and thawing may result in appearance of higher molecular weight immunoreactive bands.

Note: Now Western blots can easily be stripped and recycle using our specially formulated StripObuffer (Cat # FGI-1989). This stripping buffer does not require heating or have any pungent smell.

References:

1. Bilaud T, Brun C, Ancelin K, Koering CE, Laroche T, Gilson E. Telomeric localization of TRF2, a novel human telobox protein. Nat Genet. 1997 Oct;17(2):236-9. Links
2. Broccoli D, Smogorzewska A, Chong L, de Lange T telomeres contain two distinct Myb-related proteins, TRF1 and TRF2. Nat Genet. 1997 Oct;17(2):231-5. Links
3. Khan SJ, Yanez G, Seldeen K, Wang H, Lindsay SM, Fletcher TM. Interactions of TRF2 with model telomeric ends. Biochem Biophys Res Commun. 2007 Nov 9;363(1):44-50. Epub 2007 Aug 30. Links
4. van Steensel B, Smogorzewska A, de Lange T. TRF2 protects human telomeres from end-to-end fusions. Cell. 1998 Feb 6;92(3):401-13.

* For users who may require large amounts of TRF2-201A, please enquire about bulk material discounts.

This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.

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