10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

TERF2 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1906a

Product Information

Application	WB, IHC, E
Primary Accession	Q15554
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	3H6B4
Isotype	IgG1
Calculated MW	59594
Description	This gene encodes a telomere specific protein, TERF2, which is a component of the telomere nucleoprotein complex. This protein is present at telomeres in metaphase of the cell cycle, is a second negative regulator of telomere length and plays a key role in the protective activity of telomeres. While having similar telomere binding activity and domain organization, TERF2 differs from TERF1 in that its N terminus is basic rather than acidic.
Immunogen	Purified recombinant fragment of human TERF2 (AA: 324-500) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide.

Additional Information

Gene ID	7014
Other Names	Telomeric repeat-binding factor 2, TTAGGG repeat-binding factor 2, Telomeric DNA-binding protein, TERF2, TRBF2, TRF2
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	TERF2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	TERF2
Synonyms	TRBF2, TRF2 {ECO:0000303|PubMed:28216226

Function

Binds the telomeric double-stranded 5'-TTAGGG-3' repeat and plays a central role in telomere maintenance and protection against end-to-end fusion of chromosomes (PubMed:15608617, PubMed:16166375, PubMed:20655466, PubMed:28216226, PubMed:9326950, PubMed:9326951, PubMed:9476899). In addition to its telomeric DNA-binding role, required to recruit a number of factors and enzymes required for telomere protection, including the shelterin complex, TERF2IP/RAP1 and DCLRE1B/Apollo (PubMed:16166375, PubMed:20655466). Component of the shelterin complex (telosome) that is involved in the regulation of telomere length and protection (PubMed:16166375). Shelterin associates with arrays of double-stranded 5'-TTAGGG-3' repeats added by telomerase and protects chromosome ends; without its protective activity, telomeres are no longer hidden from the DNA damage surveillance and chromosome ends are inappropriately processed by DNA repair pathways (PubMed:16166375). Together with DCLRE1B/Apollo, plays a key role in telomeric loop (T loop) formation by generating 3' single-stranded overhang at the leading end telomeres: T loops have been proposed to protect chromosome ends from degradation and repair (PubMed:20655466). Required both to recruit DCLRE1B/Apollo to telomeres and activate the exonuclease activity of DCLRE1B/Apollo (PubMed:20655466, PubMed:28216226). Preferentially binds to positive supercoiled DNA (PubMed:15608617, PubMed:20655466). Together with DCLRE1B/Apollo, required to control the amount of DNA topoisomerase (TOP1, TOP2A and TOP2B) needed for telomere replication during fork passage and prevent aberrant telomere topology (PubMed:20655466). Recruits TERF2IP/RAP1 to telomeres, thereby participating in to repressing homology-directed repair (HDR), which can affect telomere length (By similarity).

Cellular Location

Nucleus {ECO:0000255|PROSITE-ProRule:PRU00625, ECO:0000269|PubMed:20655466}. Chromosome, telomere. Note=Colocalizes with telomeric DNA in interphase cells and is located at chromosome ends during metaphase

Tissue Location

Ubiquitous. Highly expressed in spleen, thymus, prostate, uterus, testis, small intestine, colon and peripheral blood leukocytes.

References

1. PLoS One. 2012;7(4):e34386. 2. Breast Cancer Res Treat. 2011 Jun;127(3):623-30.

Images

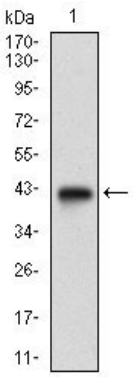
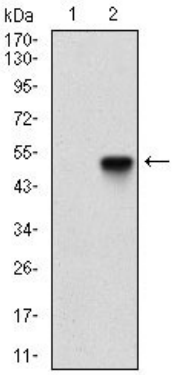


Figure 1: Western blot analysis using TERF2 mAb against human TERF2 (AA: 324-500) recombinant protein. (Expected MW is 39.7 kDa)

Figure 2: Western blot analysis using TERF2 mAb against HEK293 (1) and TERF2 (AA: 324-500)-hIgGFc transfected HEK293 (2) cell lysate.



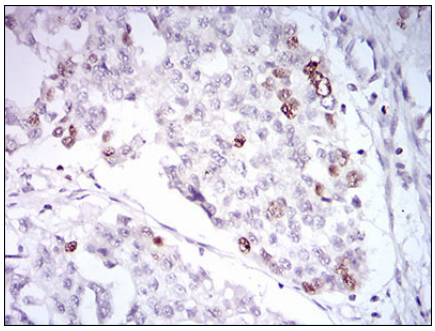


Figure 3: Immunohistochemical analysis of paraffin-embedded ovarian cancer tissues using TERF2 mouse mAb with DAB staining.

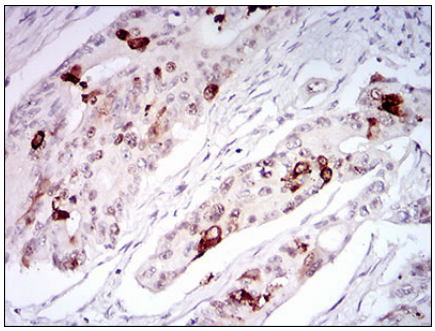


Figure 4: Immunohistochemical analysis of paraffin-embedded rectum cancer tissues using TERF2 mouse mAb with DAB staining.