



# Rat Anti-TERF1 monoclonal antibody, clone 683D (CABT-RM172)

This product is for research use only and is not intended for diagnostic use.

## PRODUCT INFORMATION

<b>Specificity</b>	Specifically detects murine Telomeric repeat-binding factor 1 (TRF1).
<b>Target</b>	TERF1
<b>Immunogen</b>	His-tagged full-length recombinant mouse Telomeric repeat-binding factor 1 (TRF1).
<b>Isotype</b>	IgG1, κ
<b>Source/Host</b>	Rat
<b>Species Reactivity</b>	Mouse
<b>Clone</b>	683D
<b>Purification</b>	Protein G purified
<b>Conjugate</b>	unconjugated
<b>Applications</b>	FC, ICC, IF, WB
<b>Molecular Weight</b>	~51 kDa observed; 48.22 kDa calculated. Uncharacterized bands may be observed in some lysate(s).
<b>Format</b>	Liquid
<b>Size</b>	100 µg
<b>Buffer</b>	0.1 M Tris-Glycine (pH 7.4), 150 mM NaCl
<b>Preservative</b>	0.05% sodium azide

**Storage**

Stable for 1 year at 2-8°C from date of receipt.

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## BACKGROUND

**Introduction**

Telomeric repeat-binding factor 1 is encoded by the Terf1 gene in murine species. TRF1 is a component of the shelterin complex that is involved in the regulation of telomere length and protection. It binds to telomeric DNA as a homodimer and protects telomeres. It is reported to bind to the telomeric double-stranded 5'-TTAGGG-3' repeat and negatively regulates telomere length. TRF1 is shown to be regulated by the PI3K signaling pathway and AKT is shown to phosphorylate TRF1 at threonine 248 and 330 and serine 344. Inhibition of PI3K and AKT are known to result in decreased TRF1 levels and decreased TRF1 telomeric foci. TRF1 levels can also be regulated at the transcriptional level by Oct4 that binds to TRF1 promoter, which is shown to be sufficient to upregulate TRF1 mRNA and protein levels during in vitro generation of induced pluripotent stem cells. ADP-ribosylation of human TRF1 by tankyrase 1 releases TRF1 from telomeres promoting its ubiquitination and proteasome-mediated degradation.

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**Keywords**

TERF1; telomeric repeat binding factor (NIMA-interacting) 1; TRF; PIN2; TRF1; TRBF1; t-TRF1; hTRF1-AS; telomeric repeat-binding factor 1; NIMA-interacting protein 2; telomeric protein Pin2/TRF1; TTAGGG repeat-binding factor 1

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## GENE INFORMATION

**Entrez Gene ID**

[21749](#)

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**UniProt ID**

[P70371](#)

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