

## TRF1 Protein, Human, Recombinant (His)

## General Information

Synonyms:	TRF;telomeric repeat binding factor (NIMA-interacting) 1;hTRF1-AS;TRF1;t-TRF1;PIN2;FLJ41416;TRBF1
Protein Construction:	A DNA sequence encoding the human TERF1 isoform 2 (NP_003209.2) (Met 1-Asp 419) was expressed, with a polyhistidine tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	P54274-2
Molecular Weight:	50.5 kDa (predicted); 60 kDa (reducing conditions)

## QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 80 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Tris, 500 mM NaCl, pH 8.0, 10% gly. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

## Preparation and Storage

## Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

## Stability &amp; Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

## Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

## Protein Background

Telomeric repeat binding factor 1 (TRF1), also known as TERF1, the shelterin complex, which modulates the telomere structures. TRF1 protein structure contains a C-terminal Myb motif, a dimerization domain near its N-terminus and an acidic N-terminus. Pin2/TRF1 was originally identified as a protein bound to telomeric DNA (TRF1) and as a protein involved in mitotic regulation (Pin2). Pin2/TRF1 negatively regulates telomere length and

importantly, its function is tightly regulated during the cell cycle, acting as an important regulator of mitosis. TRF1 can be bound and modulated by two nucleolar GTP-binding proteins, nucleostemin (NS) and guanine nucleotide binding protein-like 3-like (GNL3L), which exhibit apparently opposite effects on the protein degradation of TRF1. TRF1/TERF1 may have associated with cancer. TRF1 may play a significant role in cell differentiation in non-small cell lung cancer (NSCLC). The expression level of TRF1 protein is significantly reduced in kidney cancer and the level is negatively correlated with malignant degree of the cancer. TRF1 expression in malignant gliomas cells, may play a role in the malignant progression of astroglial brain tumors.

### Reference

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