

## RIZ1 Protein, Human, Recombinant (GST)

### General Information

Synonyms:	PR domain containing 2, with ZNF domain;MTB-ZF;RIZ1;HUMHOXY1;RIZ2;RIZ;KMT8
Protein Construction:	A DNA sequence encoding the N-terminal segment of human PRDM2 (NP_036363.2) (Met 1-Ala 200), containing the SET domain, was fused with the GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	Q13029-1
Molecular Weight:	49.6 kDa (predicted); 49.6 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:	> 86 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing 20 mM Tris, 150 mM NaCl, 0.5 mM DTT, 0.5 mM GSH, pH 8.0. 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 & 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

PR domain containing 2, with ZNF domain (PRDM2), also known as zinc finger protein RIZ, is a member of histone methyltransferase (HMT) class enzymes that methylate lysine residues of histones or proteins. HMTs contain a conserved catalytic core termed the SET domain, which shares sequence homology with an independently described sequence motif, the PR domain. PRDM2 contains 8 C2H2-type zinc fingers and a distinct SET domain,

and is highly expressed in retinoblastoma cell lines and in brain tumors, as well as in a number of other cell lines and in brain, heart, skeletal muscle, liver and spleen. PRDM2 is an S-adenosyl-L-methionine-dependent histone methyltransferase that specifically methylates 'Lys-9' of histone H3, and is identified as a tumor suppressor. It is reported that intact PR( SET) sequence is required for tumor suppression functions, mutations in the PR domain caused activity reduction in human cancers. Also, S-adenosylhomocysteine or methyl donor deficiency inhibits RIZ1 and other H3 lysine 9 methylation activities. PRDM2 may also function as a DNA-binding transcription factor. It binds to the macrophage-specific TPA-responsive element (MTE) of the HMOX1 (heme oxygenase 1) gene and acts as a transcriptional activator. Besides, PRDM2 (RIZ) can bind to the retinoblastoma protein (RB) and also Interacts with GATA3.

### Reference

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