Data Sheet (Cat.No.TMPY-01272)

TargetMol

RIZ1 Protein, Human, Recombinant

General Information

Synonyms:	RIZ2;PR domain containing 2, with ZNF domain;KMT8;MTB-ZF;RIZ;RIZ1;HUMHOXY1
Protein Construction:	A DNA sequence encoding the N-terminal segment of human PRDM2 (NP_036363.2) (Met 1-Ala 200), containing the SET domian, was expressed, with two additonal amino acids (Gly & Pro) at the N-terminus. Predicted N terminal: Gly
Species:	Human
Expression Host:	E. coli
Accession:	Q13029-1
Molecular Weight:	23 kDa (predicted); 26 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:	> 96 % 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

Buyes, I.M. et al., 1995, Proc. Natl. Acad. Sci. U.S.A. 92: 4467-4471.
Muraosa, Y. et al., 1996, Eur. J. Biochem. 235: 471-479.
Kim, K. et al., 2003, Cancer. Res. 63: 7619-7623.
Shapiro, V.S. et al., 1995, Gene. 163: 329-330.
Briknarova, K.et al.,2008,Biochem.Biophys.Res.Commun.366:807-813.