Data Sheet (Cat.No.TMPY-03291)

TargetMol

SMAD2 Protein, Mouse, Recombinant (His & GST)

General Information

Synonyms:	mMad2;Smad-2;7120426M23Rik;Madr2;Madh2;SMAD family member 2
Protein Construction:	A DNA sequence encoding the mouse SMAD2 (Q62432-Isoform Long) (Ser2-Ser467) was expressed with the N-terminal polyhistidine-tagged GST tag at the N-terminus. Predicted N terminal: Met
Species:	Mouse
Expression Host:	Baculovirus Insect Cells
Accession:	Q62432
Molecular Weight:	80 kDa (predicted); 90 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:	> 90 % 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% glycerol, 3 mM DTT. 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

SMAD2 is a member of the SMAD family. Members of this family mediate signal transduction by the TGF-beta/activin/BMP-2/4 cytokine superfamily from receptor Ser/Thr protein kinases at the cell surface to the nucleus. SMAD2 mediates the signal of the TGF-beta, and therefore regulates multiple cellular processes, such as cell proliferation, apoptosis, and differentiation. SMAD2 is recruited to the TGF-beta receptors through its

interaction with the SMAD anchor for receptor activation (SARA) protein. SMAD2 is the downstream signal transducers of TGF-beta-1 in human dental pulp cells. In response to TGF-beta signal, this protein is phosphorylated by the TGF-beta receptors. Phosphorylated SMAD2 is able to form a complex with SMAD4 or SARA. These complexes accumulate in the cell nucleus, where they are directly participating in the regulation of gene expression.

Reference

Feng. et al., 2002, Mol Cell. 9 (1): 133-43.
Zhu Y. et al., 1997, J Biol Chem. 272 (15): 10035-40.
Zi Z. et al., 2012, FEBS Lett. 586 (14): 1921-8.