

## SMAD5 Protein, Mouse, Recombinant

### General Information

Synonyms:	MusMLP;AI451355;Madh5;Dwf-C;1110051M15Rik;SMAD family member 5
Protein Construction:	A DNA sequence encoding the mouse SMAD5 (P97454) (Thr2-Ser465) was expressed and purified with two additional amino acids (Gly & Pro ) at the N-terminus. Predicted N terminal: Gly
Species:	Mouse
Expression Host:	Baculovirus Insect Cells
Accession:	P97454
Molecular Weight:	52.2 kDa (predicted); 57 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, 10% glycerol, pH8.0. 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

SMAD5 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. SMAD5 is involved in the TGF-beta signaling pathway that results in an inhibition of the proliferation of hematopoietic progenitor cells. It is also involved in cell signalling and modulates signals of bone morphogenetic

proteins (BMP's). The binding of ligands causes the oligomerization and phosphorylation of the SMAD5 protein. SMAD5 is a receptor regulated SMAD (R-SMAD) and is activated by bone morphogenetic protein type 1 receptor kinase.

### Reference

Vinayagam A. et al., 2011, Sci Signal. 4 (189): rs8.

Sangadala S. et al., 2007, J Biomol Struct Dyn. 25 (1): 11-23.

Riggins GJ. et al., 1996, Nat Genet. 13 (3): 347-9.

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