

## SMAD3 Protein, Human, Recombinant (His)

### General Information

Synonyms:	Mad3;hMAD-3;MADH3;SMAD3;JV15-2;SMAD family member 3 (SMAD 3;Smad3;hSMAD3);MAD homolog 3;Mothers against decapentaplegic homolog 3;Mothers against DPP homolog 3
Protein Construction:	1-425 aa
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	P84022
Molecular Weight:	50.6 kDa (predicted)
AA Sequence:	MSSILPFTPPIVKRLLGWKKGEQNGQEEKWCEKAVKSLVKLKKKTGQLDELEKAITTQNVNTKCITIPRSLDGRLLQVSHRKGLPHVIYCRLWRWPDLSHHELRAMELCEFAFNMKKDEVCPYHYQRVETPVLPPVLVPRHTEIPAEFPPLDDYSHSIPENTNFPAGIEPQSNIPETPPPGYLSEGETSDHQMNHSM DAGSPNLSPNPMSPAHNLDLQPVTYCEPAFWCSISYELNQRVGETFHASQPSMTVDGFTDPSNSERFCLGLLSNVNRNAAVELTRRHIGRGVRLYYIGGEVFAECLSDSAIFVQSPNCNQRYGWHPATVCKIPPGCNLKIFNNQEFAALLAQSVNQGF EAVYQLTRMCTIRMSFVKGWGA EYRRQTVTSTPCWIELHLNGPLQWLDKVL TQMGS PSIRCSSVS

### QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 85% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Tris-based buffer, 50% glycerol

### 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:

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

Receptor-regulated SMAD (R-SMAD) that is an intracellular signal transducer and transcriptional modulator

activated by TGF-beta (transforming growth factor) and activin type 1 receptor kinases. Binds the TRE element in the promoter region of many genes that are regulated by TGF-beta and, on formation of the SMAD3/SMAD4 complex, activates transcription. Also can form a SMAD3/SMAD4/JUN/FOS complex at the AP-1/SMAD site to regulate TGF-beta-mediated transcription. Has an inhibitory effect on wound healing probably by modulating both growth and migration of primary keratinocytes and by altering the TGF-mediated chemotaxis of monocytes. This effect on wound healing appears to be hormone-sensitive. Regulator of chondrogenesis and osteogenesis and inhibits early healing of bone fractures. Positively regulates PDPK1 kinase activity by stimulating its dissociation from the 14-3-3 protein YWHAQ which acts as a negative regulator.

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