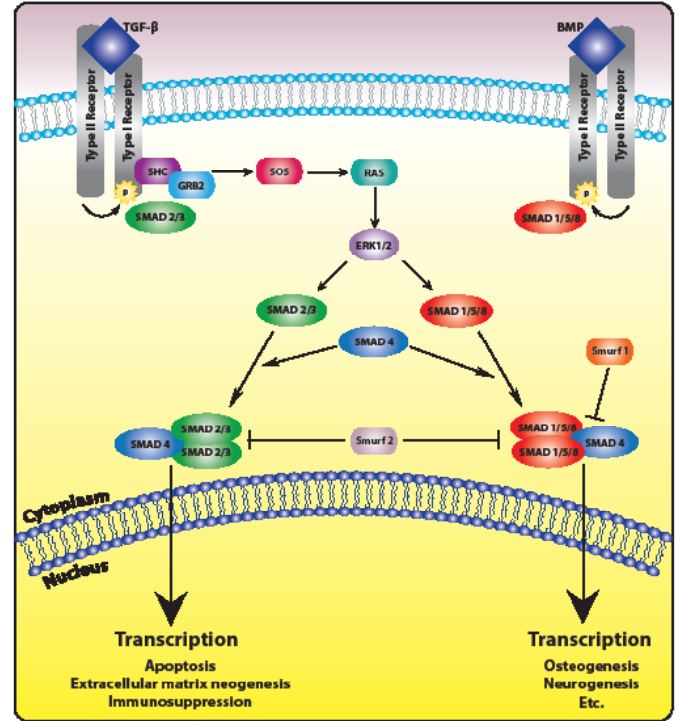


TGF- β Signaling Pathway

Transforming growth factor β (TGF- β) is a protein that controls proliferation, cellular differentiation, and other functions in most cells. TGF- β family member binds to the Type II receptor and recruits Type I, whereby Type II receptor phosphorylates and activates Type I. The Type I receptor, in turn, phosphorylates receptor-activated Smads (R-Smads: Smad1, Smad2, Smad3, Smad5, and Smad8). Once phosphorylated, R-Smads associate with the co-mediator Smad, Smad4, and the heteromeric complex then translocates into the nucleus. In the nucleus, Smad complexes activate specific genes through cooperative interactions with other DNA-binding and coactivator (or co-repressor) proteins. In general, the release and activation of TGF- β stimulates the production of various extracellular matrix proteins and inhibits the degradation of these matrix proteins which contributes to tissue repair. However, excessive TGF- β may contribute to a pathologic.



excess of tissue fibrosis such as in renal fibrosis. Prolonged exposure of cells to hyperglycemia is the basis for a variety of diabetes-associated complications, including diabetic nephropathy, a major cause of diabetes-associated death. An important factor in diabetic nephropathy is the extensive fibrosis, which appears to result from hyperactivity of TGF- β signaling. It has been shown that leptin can stimulate mRNA expression and protein secretion of TGF- β 1 which is one of the key regulators of extracellular matrix (ECM) genes in mesangial cells and can contribute to extracellular matrix deposition, glomerulosclerosis, and proteinuria. As an additional note, studies have shown that in response to high glucose, cells can activate TGF- β signaling through a direct enhancement of cell surface presentation of the TGF- β receptors which has a direct effect on TGF- β ligand activation. Finally, elevated glomerular TGF- β 1 levels have been shown to make a significant contribution to the pathogenesis of diabetic glomerular lesions, including accumulation of type I collagen.

Antibodies

Product Name	Cat. No.	Size
Anti-TGF- β 1 Antibody	A1456	30 μ g, 100 μ g
BMP-14 Antibody	5580	30 μ g, 100 μ g
BMP-2 Antibody	5672	30 μ g, 100 μ g
BMP-3 Antibody	5573	100 μ g
BMP-3 Antibody	5673	100 μ g
BMP-3 Antibody	5673R	30 μ g, 100 μ g
BMP-3 Blocking Peptide	5673RBP	50 μ g
BMP-4 Antibody	5674A	30 μ g, 100 μ g
BMP-4 Antibody	5674R	30 μ g, 100 μ g
BMP-5 Antibody	5574	30 μ g, 100 μ g
BMP-5 Antibody	5675R	30 μ g, 100 μ g

155 S. Milpitas Blvd, Milpitas, CA 95035

T: 408-493-1800 F: 408-493-1801

Toll Free: 800-891-9699 (US Only)

Antibodies

Product Name	Cat. No.	Size
BMP-7 Antibody	5677	100 µg
BMP-7 Antibody	5677R	30 µg, 100 µg
BMPR2 Antibody (NT)	6780	100 µl
CTGF Antibody	5553R	30 µg, 100 µg
Cyr61 Antibody	3648	30 µg, 100 µg
Decorin Antibody	3645A	30 µg, 100 µg
Decorin Antibody	3645R	30 µg, 100 µg
GFRalpha-1 Antibody	6201	100 µg
Mcl-1 Antibody	3035	30 µg, 100 µg
Smad1 Antibody	3461	30 µg, 100 µg
Smad4 Antibody	3464	30 µg, 100 µg
Smad5 Antibody	3465	100 µg
Smad7 Antibody	3670	30 µg, 100 µg
TAB1 Antibody	3682	100 µg
TGF-alpha Antibody	5339	30 µg, 100 µg
TGF-beta Receptor I Antibody	5636R	30 µg, 100 µg
TGF-beta Receptor I Blocking Peptide	5636RBP	50 µg
TGF-beta Receptor II Antibody	5639R	30 µg, 100 µg
TGF-beta Receptor II Blocking Peptide	5639RBP	50 µg
TGF-beta Receptor III Antibody	5642	100 µg
TGF-beta1 Antibody	5559	100 µg
TGF-beta2 Antibody	5340	30 µg, 100 µg
TGF-beta2 Antibody	5343R	30 µg, 100 µg
TGF-beta2 Blocking Peptide	5343RBP	50 µg
TGF-beta3 Antibody	5344R	30 µg, 100 µg
TGF-beta3 Blocking Peptide	5344RBP	50 µg

Inhibitors

Product Name	Cat. No.	Size	CAS Number
A 83-01	1725	1 mg	909910-43-6
EZSolution™ A83-01, Sterile-Filtered	1989	1 ml	909910-43-6
Dorsomorphin	1686	5 mg	866405-64-3
EZSolution™ Dorsomorphin	2547	5 mg	866405-64-3
GW788388	2820	10 mg, 50 mg	452342-67-5
LY-2109761	9605	5 mg, 25 mg	700874-71-1
RepSox	1894	5 mg, 25 mg	446859-33-2
SB-431542	1674	1 mg, 5 mg	301836-41-9
EZSolution™ SB-431542	1872	1 mg	301836-41-9
EZSolution™ SB-431542, Sterile-Filtered	1992	1 ml	301836-41-9

Proteins/Enzymes

Product Name	Cat. No.	Size
Activin A, human recombinant	4724	10 µg, 100 µg, 1 mg
Human CellExp™ Activin A, Human Recombinant	6442	10 µg, 50 µg
Activin A, mouse recombinant	4725	10 µg, 100 µg, 1 mg
Activin A, rat recombinant	4726	10 µg, 100 µg, 1 mg

Proteins/Enzymes

Product Name	Cat. No.	Size
Activin B, Human Recombinant	7112	10 µg, 50 µg
Human CellExp™ ADIPOQ /Adiponectin /ACRP30, human recombinant	7232	10 µg
BMP-10, human recombinant	4581	20 µg, 100 µg, 1 mg
BMP-11, human recombinant	4576	10 µg, 50 µg, 1 mg
BMP-11/GDF-11, human recombinant	7155	10 µg, 50 µg
BMP-12/GDF-7, human recombinant	4572	20 µg, 100 µg, 1 mg
BMP-13, human recombinant	4639	10 µg, 50 µg, 1 mg
BMP-14 (GDF-5/CDMP-1), human recombinant	4580	10 µg, 50 µg, 1 mg
BMP-2, human recombinant	4577	10 µg, 50 µg, 1 mg
Human CellExp™ BMP-2, Human Recombinant	6444	10 µg, 50 µg
BMP-3, human recombinant	4573	10 µg, 50 µg, 1 mg
BMP-3b/GDF-10, human recombinant	7303	100 µg
BMP-4, human recombinant	4578	10 µg, 50 µg, 1 mg
Human CellExp™ BMP-4, Human Recombinant	6445	10 µg, 50 µg
BMP-5, human recombinant	4574	10 µg, 50 µg, 1 mg
BMP-6, human recombinant	4911	10 µg, 50 µg, 1 mg, 10 mg
BMP-7, human recombinant	4579	10 µg, 50 µg, 1 mg
Human CellExp™ BMP-7, Human Recombinant	6446	10 µg, 50 µg
BMP8B, human recombinant	7304	100 µg
BMP-9/GDF-2, human recombinant	7154	10 µg, 50 µg
BMPR1A, human recombinant	4881	10 µg, 1 mg
CTGF, human recombinant	4702	20 µg, 100 µg 1 mg
Human CellExp™ Cystatin C, Human Recombinant	4878	10 µg, 50 µg
Human CellExp™ Fetuin A/ASHG, Human Recombinant	7142	10 µg, 50 µg
GASP-1, human recombinant	7152	10 µg, 50 µg
Gremlin-1, human recombinant	7159	10 µg, 50 µg
Human Recombinant LEFTY-I	4873	10 µg, 50 µg
Human CellExp™ Latent Activin A / INHBA, human recombinant	P1078	10 µg, 50 µg
Human CellExp™ Beta-NGF, Human Recombinant	6443	10 µg, 50 µg
Human CellExp™ Noggin, Human Recombinant	6474	10 µg, 50 µg
SCGF-α, human recombinant	7197	10 µg, 50 µg
SCGF-β, human recombinant	7198	10 µg, 50 µg
sRANK Ligand, rat recombinant	7192	10 µg, 50 µg
sRANK Receptor, human recombinant	7193	10 µg, 50 µg
TGF-alpha, human recombinant	4339	20 µg, 100 µg, 1 mg
Human CellExp™ TGF-beta 1, Human Recombinant	6479	10 µg, 50 µg
Human CellExp™ TGF-beta 2, Human Recombinant	6480	10 µg, 50 µg
Human CellExp™ TGF-beta 3, Human Recombinant	6481	10 µg, 50 µg
TGF-beta1, human recombinant	4342	5 µg, 50 µg, 500 µg
TGF-beta2, human recombinant	4340	5 µg, 50 µg, 1 mg
TGF-beta2, human recombinant	4343	5 µg
TGF-beta3, human recombinant	4344	5 µg, 50 µg, 500 µg
TNF-beta, human recombinant	4345	20 µg, 1 mg
Vaspin, human recombinant	4915	25 µg, 1 mg

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