Petra Knaus

List of Publications by Year in Descending Order

99 papers	6,130 citations	43 h-index	77 g-index
104 ext. papers	6,840 ext. citations	6.2 avg, IF	5.63 L-index

#	Paper	IF	Citations
99	Fibrodysplasia Ossificans Progressiva: What Have We Achieved and Where Are We Now? Follow-up to the 2015 Lorentz Workshop. *Frontiers in Endocrinology*, **2021**, 12, 732728	5.7	1
98	Picomolar FKBP inhibitors enabled by a single water-displacing methyl group in bicyclic [4.3.1] aza-amides. *Chemical Science*, **2021**, 12, 14758-14765	9.4	1
97	Differential Impact of Fluid Shear Stress and YAP/TAZ on BMP/TGF-Induced Osteogenic Target Genes. *Advanced Biology*, **2021**, 5, 2000051		1
96	ActivinA Induced SMAD1/5 Signaling in an iPSC Derived EC Model of Fibrodysplasia Ossificans Progressiva (FOP) Can Be Rescued by the Drug Candidate Saracatinib. *Stem Cell Reviews and Reports*, **2021**, 17, 1039-1052	7.3	3
95	Optimized expression and purification of a soluble BMP2 variant based on in-silico design. *Protein Expression and Purification*, **2021**, 186, 105918	2	0
94	Biomechanical stress provides a second hit in the establishment of BMP/TGF-related vascular disorders. *Cell Stress*, **2020**, 4, 44-47	5.5	3
93	BMP signalling in a mechanical context - Implications for bone biology. *Bone*, **2020**, 137, 115416	4.7	15
92	AMOT130 drives BMP-SMAD signaling at the apical membrane in polarized cells. *Molecular Biology of the Cell*, **2020**, 31, 118-130	3.5	9
91	Antagonistic Activities of Vegfr3/Flt4 and Notch1b Fine-tune Mechanosensitive Signaling during Zebrafish Cardiac Valvulogenesis. *Cell Reports*, **2020**, 32, 107883	10.6	11
90	It Takes Two to Tango: Endothelial TGF/BMP Signaling Crosstalk with Mechanobiology. *Cells*, **2020**, 9,	7.9	16
89	Load-induced osteogenic differentiation of mesenchymal stromal cells is caused by mechano-regulated autocrine signaling. *Journal of Tissue Engineering and Regenerative Medicine*, **2019**, 13, 1992-2008	4.4	25
88	Is NO the Answer? The Nitric Oxide Pathway Can Support Bone Morphogenetic Protein 2 Mediated Signaling. *Cells*, **2019**, 8,	7.9	4
87	Lessons from LIMK1 enzymology and their impact on inhibitor design. *Biochemical Journal*, **2019**, 476, 3197-3209	3.8	3
86	Sex-specific metabolic and functional differences in human umbilical vein endothelial cells from twin pairs. *Atherosclerosis*, **2019**, 291, 99-106	3.1	15
85	BMPR2 acts as a gatekeeper to protect endothelial cells from increased TGF responses and altered cell mechanics. *PLoS Biology*, **2019**, 17, e3000557	9.7	38
84	Cell-specific responses to the cytokine TGF are determined by variability in protein levels. *Molecular Systems Biology*, **2018**, 14, e7733	12.2	35
83	BMPR2 inhibits activin and BMP signaling via wild-type ALK2. *Journal of Cell Science*, **2018**, 131,	5.3	28

82	Cofilin-1 phosphorylation catalyzed by ERK1/2 alters cardiac actin dynamics in dilated cardiomyopathy caused by lamin A/C gene mutation. *Human Molecular Genetics*, **2018**, 27, 3060-3078	5.6	29
81	Impaired proteoglycan glycosylation, elevated TGF-β signaling, and abnormal osteoblast differentiation as the basis for bone fragility in a mouse model for gerodermia osteodysplastica. *PLoS Genetics*, **2018**, 14, e1007242	6	25
80	Functional regulation of YAP mechanosensitive transcriptional coactivator by Focused Low-Intensity Pulsed Ultrasound (FLIPUS) enhances proliferation of murine mesenchymal precursors. *PLoS ONE*, **2018**, 13, e0206041	3.7	6
79	Enhanced Biological Activity of BMP-2 Bound to Surface-Grafted Heparan Sulfate. *Advanced Biology* , **2017**, 1, e1600041	3.5	17
78	The Role of Titanium Surface Nanostructuring on Preosteoblast Morphology, Adhesion, and Migration. *Advanced Healthcare Materials*, **2017**, 6, 1601244	10.1	18
77	IRS4, a novel modulator of BMP/Smad and Akt signalling during early muscle differentiation. *Scientific Reports*, **2017**, 7, 8778	4.9	13
76	Role of bone morphogenetic proteins in sprouting angiogenesis: differential BMP receptor-dependent signaling pathways balance stalk tip cell competence. *FASEB Journal*, **2017**, 31, 4720-4733	0.8	45
75	BMPs as new insulin sensitizers: enhanced glucose uptake in mature 3T3-L1 adipocytes via PPARγ and GLUT4 upregulation. *Scientific Reports*, **2017**, 7, 17192	4.9	26
74	Putting Cells into Context. *Frontiers in Cell and Developmental Biology*, **2017**, 5, 32	5.7	4
73	VE-cadherin facilitates BMP-induced endothelial cell permeability and signaling. *Journal of Cell Science*, **2016**, 129, 206-18	5.3	50
72	BMP-Signaltransduktion – begleitet von control freaks und gate keepers. *BioSpektrum*, **2016**, 22, 686-690	0.1	
71	BMP signaling in vascular biology and dysfunction. *Cytokine and Growth Factor Reviews*, **2016**, 27, 65-79	17.9	96
70	Structural insights into BMP receptors: Specificity, activation and inhibition. *Cytokine and Growth Factor Reviews*, **2016**, 27, 13-34	17.9	134
69	YAP-Mediated Mechanotransduction in Skeletal Muscle. *Frontiers in Physiology*, **2016**, 7, 41	4.6	68
68	Ultrasonically Produced Porous Sponge Layer on Titanium to Guide Cell Behavior. *Advanced Engineering Materials*, **2016**, 18, 476-483	3.5	17
67	An investigation of BMP-7 mediated alterations to BMP signalling components in human tenocyte-like cells. *Scientific Reports*, **2016**, 6, 29703	4.9	8
66	Emerging regulators of BMP bioavailability. *Bone*, **2016**, 93, 220-221	4.7	1
65	Dynamin-dependent endocytosis of Bone Morphogenetic Protein2 (BMP2) and its receptors is dispensable for the initiation of Smad signaling. *International Journal of Biochemistry and Cell Biology*, **2016**, 76, 51-63	5.6	10

64	Small molecules dorsomorphin and LDN-193189 inhibit myostatin/GDF8 signaling and promote functional myoblast differentiation. *Journal of Biological Chemistry*, **2015**, 290, 3390-404	5.4	35
63	Bone morphogenetic protein signaling in bone homeostasis. *Bone*, **2015**, 80, 43-59	4.7	133
62	MiR-497~195 cluster microRNAs regulate osteoblast differentiation by targeting BMP signaling. *Journal of Bone and Mineral Research*, **2015**, 30, 796-808	6.3	49
61	Nanoscale control of surface immobilized BMP-2: toward a quantitative assessment of BMP-mediated signaling events. *Nano Letters*, **2015**, 15, 1526-34	11.5	75
60	BMP growth factor signaling in a biomechanical context. *BioFactors*, **2014**, 40, 171-87	6.1	36
59	BMP2-induced chemotaxis requires PI3K p55/p110-dependent phosphatidylinositol (3,4,5)-triphosphate production and LL5-recruitment at the cytocortex. *BMC Biology*, **2014**, 12, 43	7.3	24
58	Constitutively active ALK2 receptor mutants require type II receptor cooperation. *Molecular and Cellular Biology*, **2013**, 33, 2413-24	4.8	63
57	Of flies, mice and men: a systematic approach to understanding the early life origins of chronic lung disease. *Thorax*, **2013**, 68, 380-4	7.3	33
56	BMP10 as a potent inducer of trophoblast differentiation in human embryonic and induced pluripotent stem cells. *Biomaterials*, **2013**, 34, 9789-802	15.6	33
55	miR-181a promotes osteoblastic differentiation through repression of TGF-signaling molecules. *International Journal of Biochemistry and Cell Biology*, **2013**, 45, 696-705	5.6	98
54	The "artificial artery" as in vitro perfusion model. *PLoS ONE*, **2013**, 8, e57227	3.7	20
53	Antagonism of GxxPG fragments ameliorates manifestations of aortic disease in Marfan syndrome mice. *Human Molecular Genetics*, **2013**, 22, 433-43	5.6	28
52	Growth and differentiation factor 3 induces expression of genes related to differentiation in a model of cancer stem cells and protects them from retinoic acid-induced apoptosis. *PLoS ONE*, **2013**, 8, e70612	3.7	11
51	Comprehensive analysis of TGF-and BMP receptor interactomes. *European Journal of Cell Biology*, **2012**, 91, 287-93	6.1	10
50	SMAD versus non-SMAD signaling is determined by lateral mobility of bone morphogenetic protein (BMP) receptors. *Journal of Biological Chemistry*, **2012**, 287, 39492-504	5.4	46
49	A portrait of Transforming Growth Factor superfamily signalling: Background matters. *International Journal of Biochemistry and Cell Biology*, **2012**, 44, 469-74	5.6	145
48	BMP2 and mechanical loading cooperatively regulate immediate early signalling events in the BMP pathway. *BMC Biology*, **2012**, 10, 37	7.3	77
47	New insights into the molecular mechanism of multiple synostoses syndrome (SYNS): mutation within the GDF5 knuckle epitope causes noggin-resistance. *Journal of Bone and Mineral Research*, **2012**, 27, 429-42	6.3	24

46	BMPs are mediators in tissue crosstalk of the regenerating musculoskeletal system. *Cell and Tissue Research*, **2012**, 347, 521-44	4.2	44
45	Surface immobilization of bone morphogenetic protein 2 via a self-assembled monolayer formation induces cell differentiation. *Acta Biomaterialia*, **2012**, 8, 772-80	10.8	55
44	Oligomeric interactions of TGF-β and BMP receptors. *FEBS Letters*, **2012**, 586, 1885-96	3.8	55
43	Structure of the bone morphogenetic protein receptor ALK2 and implications for fibrodysplasia ossificans progressiva. *Journal of Biological Chemistry*, **2012**, 287, 36990-8	5.4	128
42	Noggin. *International Journal of Biochemistry and Cell Biology*, **2011**, 43, 478-81	5.6	100
41	MicroRNAs differentially expressed in postnatal aortic development downregulate elastin via 3S UTR and coding-sequence binding sites. *PLoS ONE*, **2011**, 6, e16250	3.7	84
40	Spatial segregation of BMP/Smad signaling affects osteoblast differentiation in C2C12 cells. *PLoS ONE*, **2011**, 6, e25163	3.7	34
39	Homomeric and heteromeric complexes among TGF-β and BMP receptors and their roles in signaling. *Cellular Signalling*, **2011**, 23, 1424-32	4.9	68
38	Formation of stable homomeric and transient heteromeric bone morphogenetic protein (BMP) receptor complexes regulates Smad protein signaling. *Journal of Biological Chemistry*, **2011**, 286, 19287-96	5.4	25
37	Covalent quantum dot receptor linkage via the acyl carrier protein for single-molecule tracking, internalization, and trafficking studies. *BioTechniques*, **2010**, 49, 574-9	2.5	14
36	Quantitative analysis of TGFBR2 mutations in Marfan-syndrome-related disorders suggests a correlation between phenotypic severity and Smad signaling activity. *Journal of Cell Science*, **2010**, 123, 4340-50	5.3	47
35	Modulation of matrix metalloprotease-2 levels by mechanical loading of three-dimensional mesenchymal stem cell constructs: impact on in vitro tube formation. *Tissue Engineering - Part A*, **2010**, 16, 3139-48	3.9	23
34	PP2A regulates BMP signalling by interacting with BMP receptor complexes and by dephosphorylating both the C-terminus and the linker region of Smad1. *Journal of Cell Science*, **2009**, 122, 1248-57	5.3	38
33	Novel crosstalk to BMP signalling: cGMP-dependent kinase I modulates BMP receptor and Smad activity. *EMBO Journal*, **2009**, 28, 1537-50	13	59
32	The pro-form of BMP-2 interferes with BMP-2 signalling by competing with BMP-2 for IA receptor binding. *FEBS Journal*, **2009**, 276, 6386-98	5.7	29
31	Recent advances in BMP receptor signaling. *Cytokine and Growth Factor Reviews*, **2009**, 20, 343-55	17.9	364
30	Biochemical and functional characterization of the Ror2/BRIb receptor complex. *Biochemical and Biophysical Research Communications*, **2009**, 381, 1-6	3.4	17
29	Molecular characterisation of a second structurally unusual AR-Smad without an MH1 domain and a Smad4 orthologue from Echinococcus multilocularis. *International Journal for Parasitology*, **2008**, 38, 161-76	4.3	21

28	Dysregulated bone morphogenetic protein signaling in monocrotaline-induced pulmonary arterial hypertension. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2007**, 27, 1072-8	9.4	115
27	A member of the transforming growth factor-beta receptor family from Echinococcus multilocularis is activated by human bone morphogenetic protein 2. *Molecular and Biochemical Parasitology*, **2006**, 146, 265-71	1.9	38
26	Interaction and functional cooperation between the serine/threonine kinase bone morphogenetic protein type II receptor with the tyrosine kinase stem cell factor receptor. *Journal of Cellular Physiology*, **2006**, 206, 457-67	7	21
25	B cell-specific deficiency for Smad2 in vivo leads to defects in TGF-beta-directed IgA switching and changes in B cell fate. *Journal of Immunology*, **2006**, 176, 2389-96	5.3	37
24	Different routes of bone morphogenic protein (BMP) receptor endocytosis influence BMP signaling. *Molecular and Cellular Biology*, **2006**, 26, 7791-805	4.8	194
23	p38 inhibitors prevent TGF-beta-induced myofibroblast transdifferentiation in human tenon fibroblasts. *Investigative Ophthalmology and Visual Science*, **2006**, 47, 1500-9		114
22	Yin and Yang in BMP signaling: Impact on the pathology of diseases and potential for tissue regeneration. *Signal Transduction*, **2006**, 6, 314-328		14
21	A novel R486Q mutation in BMPR1B resulting in either a brachydactyly type C/symphalangism-like phenotype or brachydactyly type A2. *European Journal of Human Genetics*, **2006**, 14, 1248-54	5.3	50
20	Dynamics and interaction of caveolin-1 isoforms with BMP-receptors. *Journal of Cell Science*, **2005**, 118, 643-50	5.3	84
19	Activating and deactivating mutations in the receptor interaction site of GDF5 cause symphalangism or brachydactyly type A2. *Journal of Clinical Investigation*, **2005**, 115, 2373-81	15.9	168
18	Nerve growth factor mediates activation of the Smad pathway in PC12 cells. *FEBS Journal*, **2004**, 271, 920-31		31
17	Modulation of GDF5/BRI-b signalling through interaction with the tyrosine kinase receptor Ror2. *Genes To Cells*, **2004**, 9, 1227-38	2.3	87
16	Signal transduction of bone morphogenetic protein receptors. *Cellular Signalling*, **2004**, 16, 291-9	4.9	435
15	Proteins associated with type II bone morphogenetic protein receptor (BMPR-II) and identified by two-dimensional gel electrophoresis and mass spectrometry. *Proteomics*, **2004**, 4, 1346-58	4.8	82
14	Mutations in bone morphogenetic protein receptor 1B cause brachydactyly type A2. *Proceedings of the National Academy of Sciences of the United States of America*, **2003**, 100, 12277-82	11.5	140
13	Identification and characterisation of two distinct Smad proteins from the fox-tapeworm Echinococcus multilocularis. *International Journal for Parasitology*, **2003**, 33, 1665-77	4.3	33
12	Effect of the distribution and clustering of the type I A BMP receptor (ALK3) with the type II BMP receptor on the activation of signalling pathways. *Journal of Cell Science*, **2003**, 116, 3277-84	5.3	50
11	Transforming growth factor-beta1 reduces megalin- and cubilin-mediated endocytosis of albumin in proximal-tubule-derived opossum kidney cells. *Journal of Physiology*, **2003**, 552, 471-81	3.9	73

10	Integration of the TGF-beta pathway into the cellular signalling network. *Cellular Signalling*, **2002**, 14, 977-88	4.9	153
9	Resistance to TGF-beta1-mediated growth inhibition correlates with sustained Smad2 phosphorylation in primary murine splenocytes. *European Journal of Immunology*, **2002**, 32, 1393-402	6.1	2
8	The mode of bone morphogenetic protein (BMP) receptor oligomerization determines different BMP-2 signaling pathways. *Journal of Biological Chemistry*, **2002**, 277, 5330-8	5.4	415
7	Radiation-induced reduction of BMP-induced proteoglycan synthesis in an embryonal mesenchymal tissue equivalent using the chicken "limb bud" test. *Strahlentherapie Und Onkologie*, **2001**, 177, 432-6	4.3	10
6	A particle-associated glycoprotein signal peptide essential for virus maturation and infectivity. *Journal of Virology*, **2001**, 75, 5762-71	6.6	102
5	Bone morphogenetic protein receptor complexes on the surface of live cells: a new oligomerization mode for serine/threonine kinase receptors. *Molecular Biology of the Cell*, **2000**, 11, 1023-35	3.5	245
4	The soluble exoplasmic domain of the type II transforming growth factor (TGF)-beta receptor. A heterogeneously glycosylated protein with high affinity and selectivity for TGF-beta ligands. *Journal of Biological Chemistry*, **1995**, 270, 2747-54	5.4	95
3	Synaptoporin, a novel putative channel protein of synaptic vesicles. *Neuron*, **1990**, 5, 453-62	13.9	119
2	Mapping of a dominant immunogenic region of synaptophysin, a major membrane protein of synaptic vesicles. *FEBS Letters*, **1990**, 261, 358-60	3.8	28
1	Expression of synaptophysin during postnatal development of the mouse brain. *Journal of Neurochemistry*, **1986**, 47, 1302-4	6	145