

Petra Knaus

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

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	Signal transduction of bone morphogenetic protein receptors. <i>Cellular Signalling</i> , 2004 , 16, 291-9	4.9	435
98	The mode of bone morphogenetic protein (BMP) receptor oligomerization determines different BMP-2 signaling pathways. <i>Journal of Biological Chemistry</i> , 2002 , 277, 5330-8	5.4	415
97	Recent advances in BMP receptor signaling. <i>Cytokine and Growth Factor Reviews</i> , 2009 , 20, 343-55	17.9	364
96	Bone morphogenetic protein receptor complexes on the surface of live cells: a new oligomerization mode for serine/threonine kinase receptors. <i>Molecular Biology of the Cell</i> , 2000 , 11, 1023-35	3.5	245
95	Different routes of bone morphogenetic protein (BMP) receptor endocytosis influence BMP signaling. <i>Molecular and Cellular Biology</i> , 2006 , 26, 7791-805	4.8	194
94	Activating and deactivating mutations in the receptor interaction site of GDF5 cause symphalangism or brachydactyly type A2. <i>Journal of Clinical Investigation</i> , 2005 , 115, 2373-81	15.9	168
93	Integration of the TGF-beta pathway into the cellular signalling network. <i>Cellular Signalling</i> , 2002 , 14, 977-88	4.9	153
92	A portrait of Transforming Growth Factor β superfamily signalling: Background matters. <i>International Journal of Biochemistry and Cell Biology</i> , 2012 , 44, 469-74	5.6	145
91	Expression of synaptophysin during postnatal development of the mouse brain. <i>Journal of Neurochemistry</i> , 1986 , 47, 1302-4	6	145
90	Mutations in bone morphogenetic protein receptor 1B cause brachydactyly type A2. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003 , 100, 12277-82	11.5	140
89	Structural insights into BMP receptors: Specificity, activation and inhibition. <i>Cytokine and Growth Factor Reviews</i> , 2016 , 27, 13-34	17.9	134
88	Bone morphogenetic protein signaling in bone homeostasis. <i>Bone</i> , 2015 , 80, 43-59	4.7	133
87	Structure of the bone morphogenetic protein receptor ALK2 and implications for fibrodysplasia ossificans progressiva. <i>Journal of Biological Chemistry</i> , 2012 , 287, 36990-8	5.4	128
86	Synaptoporin, a novel putative channel protein of synaptic vesicles. <i>Neuron</i> , 1990 , 5, 453-62	13.9	119
85	Dysregulated bone morphogenetic protein signaling in monocrotaline-induced pulmonary arterial hypertension. <i>Arteriosclerosis, Thrombosis, and Vascular Biology</i> , 2007 , 27, 1072-8	9.4	115
84	p38 inhibitors prevent TGF-beta-induced myofibroblast transdifferentiation in human tenon fibroblasts. <i>Investigative Ophthalmology and Visual Science</i> , 2006 , 47, 1500-9		114
83	A particle-associated glycoprotein signal peptide essential for virus maturation and infectivity. <i>Journal of Virology</i> , 2001 , 75, 5762-71	6.6	102

82	Noggin. <i>International Journal of Biochemistry and Cell Biology</i> , 2011 , 43, 478-81	5.6	100
81	miR-181a promotes osteoblastic differentiation through repression of TGF- β signaling molecules. <i>International Journal of Biochemistry and Cell Biology</i> , 2013 , 45, 696-705	5.6	98
80	BMP signaling in vascular biology and dysfunction. <i>Cytokine and Growth Factor Reviews</i> , 2016 , 27, 65-79	17.9	96
79	The soluble extracellular domain of the type II transforming growth factor (TGF)- β receptor. A heterogeneously glycosylated protein with high affinity and selectivity for TGF- β ligands. <i>Journal of Biological Chemistry</i> , 1995 , 270, 2747-54	5.4	95
78	Modulation of GDF5/BMP signaling through interaction with the tyrosine kinase receptor Ror2. <i>Genes To Cells</i> , 2004 , 9, 1227-38	2.3	87
77	MicroRNAs differentially expressed in postnatal aortic development downregulate elastin via 3' UTR and coding-sequence binding sites. <i>PLoS ONE</i> , 2011 , 6, e16250	3.7	84
76	Dynamics and interaction of caveolin-1 isoforms with BMP-receptors. <i>Journal of Cell Science</i> , 2005 , 118, 643-50	5.3	84
75	Proteins associated with type II bone morphogenetic protein receptor (BMPRII) and identified by two-dimensional gel electrophoresis and mass spectrometry. <i>Proteomics</i> , 2004 , 4, 1346-58	4.8	82
74	BMP2 and mechanical loading cooperatively regulate immediate early signalling events in the BMP pathway. <i>BMC Biology</i> , 2012 , 10, 37	7.3	77
73	Nanoscale control of surface immobilized BMP-2: toward a quantitative assessment of BMP-mediated signaling events. <i>Nano Letters</i> , 2015 , 15, 1526-34	11.5	75
72	Transforming growth factor- β 1 reduces megalin- and cubilin-mediated endocytosis of albumin in proximal-tubule-derived opossum kidney cells. <i>Journal of Physiology</i> , 2003 , 552, 471-81	3.9	73
71	Homomeric and heteromeric complexes among TGF- β and BMP receptors and their roles in signaling. <i>Cellular Signalling</i> , 2011 , 23, 1424-32	4.9	68
70	YAP-Mediated Mechanotransduction in Skeletal Muscle. <i>Frontiers in Physiology</i> , 2016 , 7, 41	4.6	68
69	Constitutively active ALK2 receptor mutants require type II receptor cooperation. <i>Molecular and Cellular Biology</i> , 2013 , 33, 2413-24	4.8	63
68	Novel crosstalk to BMP signalling: cGMP-dependent kinase I modulates BMP receptor and Smad activity. <i>EMBO Journal</i> , 2009 , 28, 1537-50	13	59
67	Surface immobilization of bone morphogenetic protein 2 via a self-assembled monolayer formation induces cell differentiation. <i>Acta Biomaterialia</i> , 2012 , 8, 772-80	10.8	55
66	Oligomeric interactions of TGF- β and BMP receptors. <i>FEBS Letters</i> , 2012 , 586, 1885-96	3.8	55
65	VE-cadherin facilitates BMP-induced endothelial cell permeability and signaling. <i>Journal of Cell Science</i> , 2016 , 129, 206-18	5.3	50

64	A novel R486Q mutation in BMPR1B resulting in either a brachydactyly type C/symphalangism-like phenotype or brachydactyly type A2. <i>European Journal of Human Genetics</i> , 2006 , 14, 1248-54	5.3	50
63	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. <i>Journal of Cell Science</i> , 2003 , 116, 3277-84	5.3	50
62	MiR-497~195 cluster microRNAs regulate osteoblast differentiation by targeting BMP signaling. <i>Journal of Bone and Mineral Research</i> , 2015 , 30, 796-808	6.3	49
61	Quantitative analysis of TGFBR2 mutations in Marfan-syndrome-related disorders suggests a correlation between phenotypic severity and Smad signaling activity. <i>Journal of Cell Science</i> , 2010 , 123, 4340-50	5.3	47
60	SMAD versus non-SMAD signaling is determined by lateral mobility of bone morphogenetic protein (BMP) receptors. <i>Journal of Biological Chemistry</i> , 2012 , 287, 39492-504	5.4	46
59	Role of bone morphogenetic proteins in sprouting angiogenesis: differential BMP receptor-dependent signaling pathways balance stalk tip cell competence. <i>FASEB Journal</i> , 2017 , 31, 4720-4733	6.9	45
58	BMPs are mediators in tissue crosstalk of the regenerating musculoskeletal system. <i>Cell and Tissue Research</i> , 2012 , 347, 521-44	4.2	44
57	PP2A regulates BMP signalling by interacting with BMP receptor complexes and by dephosphorylating both the C-terminus and the linker region of Smad1. <i>Journal of Cell Science</i> , 2009 , 122, 1248-57	5.3	38
56	A member of the transforming growth factor-beta receptor family from <i>Echinococcus multilocularis</i> is activated by human bone morphogenetic protein 2. <i>Molecular and Biochemical Parasitology</i> , 2006 , 146, 265-71	1.9	38
55	BMPR2 acts as a gatekeeper to protect endothelial cells from increased TGFβ responses and altered cell mechanics. <i>PLoS Biology</i> , 2019 , 17, e3000557	9.7	38
54	B cell-specific deficiency for Smad2 in vivo leads to defects in TGF-beta-directed IgA switching and changes in B cell fate. <i>Journal of Immunology</i> , 2006 , 176, 2389-96	5.3	37
53	BMP growth factor signaling in a biomechanical context. <i>BioFactors</i> , 2014 , 40, 171-87	6.1	36
52	Small molecules dorsomorphin and LDN-193189 inhibit myostatin/GDF8 signaling and promote functional myoblast differentiation. <i>Journal of Biological Chemistry</i> , 2015 , 290, 3390-404	5.4	35
51	Cell-specific responses to the cytokine TGFβ are determined by variability in protein levels. <i>Molecular Systems Biology</i> , 2018 , 14, e7733	12.2	35
50	Spatial segregation of BMP/Smad signaling affects osteoblast differentiation in C2C12 cells. <i>PLoS ONE</i> , 2011 , 6, e25163	3.7	34
49	Of flies, mice and men: a systematic approach to understanding the early life origins of chronic lung disease. <i>Thorax</i> , 2013 , 68, 380-4	7.3	33
48	BMP10 as a potent inducer of trophoblast differentiation in human embryonic and induced pluripotent stem cells. <i>Biomaterials</i> , 2013 , 34, 9789-802	15.6	33
47	Identification and characterisation of two distinct Smad proteins from the fox-tapeworm <i>Echinococcus multilocularis</i> . <i>International Journal for Parasitology</i> , 2003 , 33, 1665-77	4.3	33

46	Nerve growth factor mediates activation of the Smad pathway in PC12 cells. <i>FEBS Journal</i> , 2004 , 271, 920-31			31
45	Cofilin-1 phosphorylation catalyzed by ERK1/2 alters cardiac actin dynamics in dilated cardiomyopathy caused by lamin A/C gene mutation. <i>Human Molecular Genetics</i> , 2018 , 27, 3060-3078	5.6		29
44	The pro-form of BMP-2 interferes with BMP-2 signalling by competing with BMP-2 for IA receptor binding. <i>FEBS Journal</i> , 2009 , 276, 6386-98	5.7		29
43	BMPR2 inhibits activin and BMP signaling via wild-type ALK2. <i>Journal of Cell Science</i> , 2018 , 131,	5.3		28
42	Antagonism of GxxPG fragments ameliorates manifestations of aortic disease in Marfan syndrome mice. <i>Human Molecular Genetics</i> , 2013 , 22, 433-43	5.6		28
41	Mapping of a dominant immunogenic region of synaptophysin, a major membrane protein of synaptic vesicles. <i>FEBS Letters</i> , 1990 , 261, 358-60	3.8		28
40	BMPs as new insulin sensitizers: enhanced glucose uptake in mature 3T3-L1 adipocytes via PPAR α and GLUT4 upregulation. <i>Scientific Reports</i> , 2017 , 7, 17192	4.9		26
39	Load-induced osteogenic differentiation of mesenchymal stromal cells is caused by mechano-regulated autocrine signaling. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2019 , 13, 1992-2008	4.4		25
38	Formation of stable homomeric and transient heteromeric bone morphogenetic protein (BMP) receptor complexes regulates Smad protein signaling. <i>Journal of Biological Chemistry</i> , 2011 , 286, 19287-94	5.4		25
37	Impaired proteoglycan glycosylation, elevated TGF- β signaling, and abnormal osteoblast differentiation as the basis for bone fragility in a mouse model for gerodermia osteodysplastica. <i>PLoS Genetics</i> , 2018 , 14, e1007242	6		25
36	BMP2-induced chemotaxis requires PI3K p55 α /p110 β -dependent phosphatidylinositol (3,4,5)-triphosphate production and LL5 β recruitment at the cytocortex. <i>BMC Biology</i> , 2014 , 12, 43	7.3		24
35	New insights into the molecular mechanism of multiple synostoses syndrome (SYNS): mutation within the GDF5 knuckle epitope causes noggin-resistance. <i>Journal of Bone and Mineral Research</i> , 2012 , 27, 429-42	6.3		24
34	Modulation of matrix metalloprotease-2 levels by mechanical loading of three-dimensional mesenchymal stem cell constructs: impact on in vitro tube formation. <i>Tissue Engineering - Part A</i> , 2010 , 16, 3139-48	3.9		23
33	Molecular characterisation of a second structurally unusual AR-Smad without an MH1 domain and a Smad4 orthologue from <i>Echinococcus multilocularis</i> . <i>International Journal for Parasitology</i> , 2008 , 38, 161-76	4.3		21
32	Interaction and functional cooperation between the serine/threonine kinase bone morphogenetic protein type II receptor with the tyrosine kinase stem cell factor receptor. <i>Journal of Cellular Physiology</i> , 2006 , 206, 457-67	7		21
31	The "artificial artery" as in vitro perfusion model. <i>PLoS ONE</i> , 2013 , 8, e57227	3.7		20
30	The Role of Titanium Surface Nanostructuring on Preosteoblast Morphology, Adhesion, and Migration. <i>Advanced Healthcare Materials</i> , 2017 , 6, 1601244	10.1		18
29	Enhanced Biological Activity of BMP-2 Bound to Surface-Grafted Heparan Sulfate. <i>Advanced Biology</i> , 2017 , 1, e1600041	3.5		17

28	Biochemical and functional characterization of the Ror2/BRIb receptor complex. <i>Biochemical and Biophysical Research Communications</i> , 2009 , 381, 1-6	3.4	17
27	Ultrasonically Produced Porous Sponge Layer on Titanium to Guide Cell Behavior. <i>Advanced Engineering Materials</i> , 2016 , 18, 476-483	3.5	17
26	It Takes Two to Tango: Endothelial TGF β /BMP Signaling Crosstalk with Mechanobiology. <i>Cells</i> , 2020 , 9,	7.9	16
25	BMP signalling in a mechanical context - Implications for bone biology. <i>Bone</i> , 2020 , 137, 115416	4.7	15
24	Sex-specific metabolic and functional differences in human umbilical vein endothelial cells from twin pairs. <i>Atherosclerosis</i> , 2019 , 291, 99-106	3.1	15
23	Covalent quantum dot receptor linkage via the acyl carrier protein for single-molecule tracking, internalization, and trafficking studies. <i>BioTechniques</i> , 2010 , 49, 574-9	2.5	14
22	Yin and Yang in BMP signaling: Impact on the pathology of diseases and potential for tissue regeneration. <i>Signal Transduction</i> , 2006 , 6, 314-328		14
21	IRS4, a novel modulator of BMP/Smad and Akt signalling during early muscle differentiation. <i>Scientific Reports</i> , 2017 , 7, 8778	4.9	13
20	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. <i>PLoS ONE</i> , 2013 , 8, e70612	3.7	11
19	Antagonistic Activities of Vegfr3/Flt4 and Notch1b Fine-tune Mechanosensitive Signaling during Zebrafish Cardiac Valvulogenesis. <i>Cell Reports</i> , 2020 , 32, 107883	10.6	11
18	Comprehensive analysis of TGF- β and BMP receptor interactomes. <i>European Journal of Cell Biology</i> , 2012 , 91, 287-93	6.1	10
17	Radiation-induced reduction of BMP-induced proteoglycan synthesis in an embryonal mesenchymal tissue equivalent using the chicken "limb bud" test. <i>Strahlentherapie Und Onkologie</i> , 2001 , 177, 432-6	4.3	10
16	Dynamin-dependent endocytosis of Bone Morphogenetic Protein2 (BMP2) and its receptors is dispensable for the initiation of Smad signaling. <i>International Journal of Biochemistry and Cell Biology</i> , 2016 , 76, 51-63	5.6	10
15	AMOT130 drives BMP-SMAD signaling at the apical membrane in polarized cells. <i>Molecular Biology of the Cell</i> , 2020 , 31, 118-130	3.5	9
14	An investigation of BMP-7 mediated alterations to BMP signalling components in human tenocyte-like cells. <i>Scientific Reports</i> , 2016 , 6, 29703	4.9	8
13	Functional regulation of YAP mechanosensitive transcriptional coactivator by Focused Low-Intensity Pulsed Ultrasound (FLIPUS) enhances proliferation of murine mesenchymal precursors. <i>PLoS ONE</i> , 2018 , 13, e0206041	3.7	6
12	Is NO the Answer? The Nitric Oxide Pathway Can Support Bone Morphogenetic Protein 2 Mediated Signaling. <i>Cells</i> , 2019 , 8,	7.9	4
11	Putting Cells into Context. <i>Frontiers in Cell and Developmental Biology</i> , 2017 , 5, 32	5.7	4

10	Biomechanical stress provides a second hit in the establishment of BMP/TGF β -related vascular disorders. <i>Cell Stress</i> , 2020 , 4, 44-47	5.5	3
9	Lessons from LIMK1 enzymology and their impact on inhibitor design. <i>Biochemical Journal</i> , 2019 , 476, 3197-3209	3.8	3
8	ActivinA Induced SMAD1/5 Signaling in an iPSC Derived EC Model of Fibrodysplasia Ossificans Progressiva (FOP) Can Be Rescued by the Drug Candidate Saracatinib. <i>Stem Cell Reviews and Reports</i> , 2021 , 17, 1039-1052	7.3	3
7	Resistance to TGF-beta1-mediated growth inhibition correlates with sustained Smad2 phosphorylation in primary murine splenocytes. <i>European Journal of Immunology</i> , 2002 , 32, 1393-402	6.1	2
6	Fibrodysplasia Ossificans Progressiva: What Have We Achieved and Where Are We Now? Follow-up to the 2015 Lorentz Workshop. <i>Frontiers in Endocrinology</i> , 2021 , 12, 732728	5.7	1
5	Picomolar FKBP inhibitors enabled by a single water-displacing methyl group in bicyclic [4.3.1] aza-amides. <i>Chemical Science</i> , 2021 , 12, 14758-14765	9.4	1
4	Emerging regulators of BMP bioavailability. <i>Bone</i> , 2016 , 93, 220-221	4.7	1
3	Differential Impact of Fluid Shear Stress and YAP/TAZ on BMP/TGF- β Induced Osteogenic Target Genes. <i>Advanced Biology</i> , 2021 , 5, 2000051		1
2	Optimized expression and purification of a soluble BMP2 variant based on in-silico design. <i>Protein Expression and Purification</i> , 2021 , 186, 105918	2	0
1	BMP-Signaltransduktion begleitet von control freaks und gate keepers. <i>BioSpektrum</i> , 2016 , 22, 686-690.1		