Petra Knaus

List of Publications by Year
in descending order

101 papers	7,434 citations	57758 44 h-index	56724 83 g-index
104 all docs	104 docs citations	104 times ranked	9363 citing authors

#	Article	IF	Citations
1	Differential Impact of Fluid Shear Stress and YAP/TAZ on BMP/TGFâ€Î² Induced Osteogenic Target Genes. Advanced Biology, 2021, 5, 2000051.	2.5	10
2	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.	3.8	10
3	Visualization and Quantification of TGFβ/BMP/SMAD Signaling under Different Fluid Shear Stress Conditions using Proximity-Ligation-Assay. Journal of Visualized Experiments, 2021, , .	0.3	0
4	Optimized expression and purification of a soluble BMP2 variant based on in-silico design. Protein Expression and Purification, 2021, 186, 105918.	1.3	2
5	Picomolar FKBP inhibitors enabled by a single water-displacing methyl group in bicyclic [4.3.1] aza-amides. Chemical Science, 2021, 12, 14758-14765.	7.4	19
6	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.	3.5	15
7	AMOT130 drives BMP-SMAD signaling at the apical membrane in polarized cells. Molecular Biology of the Cell, 2020, 31, 118-130.	2.1	12
8	Antagonistic Activities of Vegfr3/Flt4 and Notch1b Fine-tune Mechanosensitive Signaling during Zebrafish Cardiac Valvulogenesis. Cell Reports, 2020, 32, 107883.	6.4	16
9	It Takes Two to Tango: Endothelial TGFÎ²/BMP Signaling Crosstalk with Mechanobiology. Cells, 2020, 9, 1965.	4.1	29
10	BMP signalling in a mechanical context â€“ Implications for bone biology. Bone, 2020, 137, 115416.	2.9	35
11	Biomechanical stress provides a second hit in the establishment of BMP/TGFÎ²-related vascular disorders. Cell Stress, 2020, 4, 44-47.	3.2	7
12	Loadâ€induced osteogenic differentiation of mesenchymal stromal cells is caused by mechanoâ€regulated autocrine signaling. Journal of Tissue Engineering and Regenerative Medicine, 2019, 13, 1992-2008.	2.7	45
13	Is NO the Answer? The Nitric Oxide Pathway Can Support Bone Morphogenetic Protein 2 Mediated Signaling. Cells, 2019, 8, 1273.	4.1	7
14	Sex-specific metabolic and functional differences in human umbilical vein endothelial cells from twin pairs. Atherosclerosis, 2019, 291, 99-106.	0.8	31
15	BMPR2 acts as aÂgatekeeper to protect endothelial cells from increased TGFÎ²Âresponses and altered cell mechanics. PLoS Biology, 2019, 17, e3000557.	5.6	71
16	Lessons from LIMK1 enzymology and their impact on inhibitor design. Biochemical Journal, 2019, 476, 3197-3209.	3.7	14
17	Cellâ€specific responses to the cytokine <scp>TGF</scp> Î² are determined by variability in protein levels. Molecular Systems Biology, 2018, 14, e7733.	7.2	50
18	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.	2.5	17

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19	BMPR2 inhibits activin- and BMP-signaling via wild type ALK2. Journal of Cell Science, 2018, 131, .	2.0	42
20	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.	2.9	42
21	Impaired proteoglycan glycosylation, elevated TGF-Î² signaling, and abnormal osteoblast differentiation as the basis for bone fragility in a mouse model for gerodermia osteodysplastica. PLoS Genetics, 2018, 14, e1007242.	3.5	36
22	Enhanced Biological Activity of BMPâ€2 Bound to Surfaceâ€Grafted Heparan Sulfate. Advanced Biology, 2017, 1, e1600041.	3.0	24
23	The Role of Titanium Surface Nanostructuring on Preosteoblast Morphology, Adhesion, and Migration. Advanced Healthcare Materials, 2017, 6, 1601244.	7.6	34
24	Cell Adhesion: The Role of Titanium Surface Nanostructuring on Preosteoblast Morphology, Adhesion, and Migration (Adv. Healthcare Mater. 15/2017). Advanced Healthcare Materials, 2017, 6, .	7.6	0
25	IRS4, a novel modulator of BMP/Smad and Akt signalling during early muscle differentiation. Scientific Reports, 2017, 7, 8778.	3.3	19
26	Role of bone morphogenetic proteins in sprouting angiogenesis: differential BMP receptorâ€dependent signaling pathways balance stalkvs. tip cell competence. FASEB Journal, 2017, 31, 4720-4733.	0.5	83
27	BMPs as new insulin sensitizers: enhanced glucose uptake in mature 3T3-L1 adipocytes via PPARÎ³ and GLUT4 upregulation. Scientific Reports, 2017, 7, 17192.	3.3	43
28	Putting Cells into Context. Frontiers in Cell and Developmental Biology, 2017, 5, 32.	3.7	5
29	VE-Cadherin facilitates BMP-induced endothelial cell permeability and signaling. Journal of Cell Science, 2016, 129, 206-18.	2.0	69
30	YAP-Mediated Mechanotransduction in Skeletal Muscle. Frontiers in Physiology, 2016, 7, 41.	2.8	98
31	Ultrasonically Produced Porous Sponge Layer on Titanium to Guide Cell Behavior. Advanced Engineering Materials, 2016, 18, 476-483.	3.5	18
32	An investigation of BMP-7 mediated alterations to BMP signalling components in human tenocyte-like cells. Scientific Reports, 2016, 6, 29703.	3.3	11
33	Emerging regulators of BMP bioavailability. Bone, 2016, 93, 220-221.	2.9	1
34	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.	2.8	16
35	Actions from head to toe: An update on Bone/Body Morphogenetic Proteins in health and disease. Cytokine and Growth Factor Reviews, 2016, 27, 1-11.	7.2	9
36	BMP signaling in vascular biology and dysfunction. Cytokine and Growth Factor Reviews, 2016, 27, 65-79.	7.2	136

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37	Structural insights into BMP receptors: Specificity, activation and inhibition. Cytokine and Growth Factor Reviews, 2016, 27, 13-34.	7.2	187
38	Nanoscale Control of Surface Immobilized BMP-2: Toward a Quantitative Assessment of BMP-Mediated Signaling Events. Nano Letters, 2015, 15, 1526-1534.	9.1	87
39	Small Molecules Dorsomorphin and LDN-193189 Inhibit Myostatin/GDF8 Signaling and Promote Functional Myoblast Differentiation. Journal of Biological Chemistry, 2015, 290, 3390-3404.	3.4	46
40	Bone morphogenetic protein signaling in bone homeostasis. Bone, 2015, 80, 43-59.	2.9	163
41	MiR-497â^¼195 Cluster MicroRNAs Regulate Osteoblast Differentiation by Targeting BMP Signaling. Journal of Bone and Mineral Research, 2015, 30, 796-808.	2.8	65
42	BMP2-induced chemotaxis requires PI3K p55Î³/p110Î±-dependent phosphatidylinositol (3,4,5)-triphosphate production and LL5Î² recruitment at the cytocortex. BMC Biology, 2014, 12, 43.	3.8	31
43	BMP growth factor signaling in a biomechanical context. BioFactors, 2014, 40, 171-187.	5.4	43
44	Constitutively Active ALK2 Receptor Mutants Require Type II Receptor Cooperation. Molecular and Cellular Biology, 2013, 33, 2413-2424.	2.3	85
45	Of flies, mice and men: a systematic approach to understanding the early life origins of chronic lung disease. Thorax, 2013, 68, 380-384.	5.6	34
46	BMP10 as a potent inducer of trophoblast differentiation in human embryonic and induced pluripotent stem cells. Biomaterials, 2013, 34, 9789-9802.	11.4	41
47	miR-181a promotes osteoblastic differentiation through repression of TGF-Î² signaling molecules. International Journal of Biochemistry and Cell Biology, 2013, 45, 696-705.	2.8	120
48	The â€œArtificial Arteryâ€•as In Vitro Perfusion Model. PLoS ONE, 2013, 8, e57227.	2.5	24
49	Antagonism of GxxPG fragments ameliorates manifestations of aortic disease in Marfan syndrome mice. Human Molecular Genetics, 2013, 22, 433-443.	2.9	33
50	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.	2.5	12
51	Structure of the Bone Morphogenetic Protein Receptor ALK2 and Implications for Fibrodysplasia Ossificans Progressiva. Journal of Biological Chemistry, 2012, 287, 36990-36998.	3.4	159
52	SMAD versus Non-SMAD Signaling Is Determined by Lateral Mobility of Bone Morphogenetic Protein (BMP) Receptors. Journal of Biological Chemistry, 2012, 287, 39492-39504.	3.4	55
53	A portrait of Transforming Growth Factor Î² superfamily signalling: Background matters. International Journal of Biochemistry and Cell Biology, 2012, 44, 469-474.	2.8	182
54	BMP2 and mechanical loading cooperatively regulate immediate early signalling events in the BMP pathway. BMC Biology, 2012, 10, 37.	3.8	91

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55	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, 429-442.	2.8	30
56	BMPs are mediators in tissue crosstalk of the regenerating musculoskeletal system. Cell and Tissue Research, 2012, 347, 521-544.	2.9	50
57	Surface immobilization of bone morphogenetic protein 2 via a self-assembled monolayer formation induces cell differentiation. Acta Biomaterialia, 2012, 8, 772-780.	8.3	64
58	Oligomeric interactions of TGFâ€Î² and BMP receptors. FEBS Letters, 2012, 586, 1885-1896.	2.8	74
59	Comprehensive analysis of TGF-Î² and BMP receptor interactomes. European Journal of Cell Biology, 2012, 91, 287-293.	3.6	11
60	Noggin. International Journal of Biochemistry and Cell Biology, 2011, 43, 478-481.	2.8	124
61	MicroRNAs Differentially Expressed in Postnatal Aortic Development Downregulate Elastin via 3â€² UTR and Coding-Sequence Binding Sites. PLoS ONE, 2011, 6, e16250.	2.5	100
62	Spatial Segregation of BMP/Smad Signaling Affects Osteoblast Differentiation in C2C12 Cells. PLoS ONE, 2011, 6, e25163.	2.5	37
63	Homomeric and heteromeric complexes among TGF-Î² and BMP receptors and their roles in signaling. Cellular Signalling, 2011, 23, 1424-1432.	3.6	76
64	Formation of Stable Homomeric and Transient Heteromeric Bone Morphogenetic Protein (BMP) Receptor Complexes Regulates Smad Protein Signaling. Journal of Biological Chemistry, 2011, 286, 19287-19296.	3.4	32
65	Covalent quantum dot receptor linkage via the acyl carrier protein for single-molecule tracking, internalization, and trafficking studies. BioTechniques, 2010, 49, 574-579.	1.8	16
66	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, 4340-4350.	2.0	58
67	Modulation of Matrix Metalloprotease-2 Levels by Mechanical Loading of Three-Dimensional Mesenchymal Stem Cell Constructs: Impact onIn VitroTube Formation. Tissue Engineering - Part A, 2010, 16, 3139-3148.	3.1	27
68	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, 1248-1257.	2.0	42
69	Novel crosstalk to BMP signalling: cGMP-dependent kinase I modulates BMP receptor and Smad activity. EMBO Journal, 2009, 28, 1537-1550.	7.8	69
70	The proâ€form of BMPâ€2 interferes with BMPâ€2 signalling by competing with BMPâ€2 for IA receptor binding. FEBS Journal, 2009, 276, 6386-6398.	4.7	34
71	Recent advances in BMP receptor signaling. Cytokine and Growth Factor Reviews, 2009, 20, 343-355.	7.2	404
72	Biochemical and functional characterization of the Ror2/BRIb receptor complex. Biochemical and Biophysical Research Communications, 2009, 381, 1-6.	2.1	20

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73	Molecular characterisation of a second structurally unusual AR-Smad without an MH1 domain and a Smad4 orthologue from Echinococcus multilocularisâ˜†. International Journal for Parasitology, 2008, 38, 161-176.	3.1	24
74	Dysregulated Bone Morphogenetic Protein Signaling in Monocrotaline-Induced Pulmonary Arterial Hypertension. Arteriosclerosis, Thrombosis, and Vascular Biology, 2007, 27, 1072-1078.	2.4	127
75	p38 Inhibitors Prevent TGF-Î²â€“Induced Myofibroblast Transdifferentiation in Human Tenon Fibroblasts. , 2006, 47, 1500.		122
76	Yin and Yang in BMP signaling: Impact on the pathology of diseases and potential for tissue regeneration. Signal Transduction, 2006, 6, 314-328.	0.4	15
77	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, 1248-1254.	2.8	63
78	A member of the transforming growth factor-Î² receptor family from Echinococcus multilocularis is activated by human bone morphogenetic protein 2. Molecular and Biochemical Parasitology, 2006, 146, 265-271.	1.1	49
79	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, 457-467.	4.1	22
80	B Cell-Specific Deficiency for Smad2 In Vivo Leads to Defects in TGF-Î²-Directed IgA Switching and Changes in B Cell Fate. Journal of Immunology, 2006, 176, 2389-2396.	0.8	39
81	Different Routes of Bone Morphogenic Protein (BMP) Receptor Endocytosis Influence BMP Signaling. Molecular and Cellular Biology, 2006, 26, 7791-7805.	2.3	230
82	Dynamics and interaction of caveolin-1 isoforms with BMP-receptors. Journal of Cell Science, 2005, 118, 643-650.	2.0	89
83	Activating and deactivating mutations in the receptor interaction site of GDF5 cause symphalangism or brachydactyly type A2. Journal of Clinical Investigation, 2005, 115, 2373-2381.	8.2	192
84	Nerve growth factor mediates activation of the Smad pathway in PC12 cells. FEBS Journal, 2004, 271, 920-931.	0.2	35
85	Modulation of GDF5/BRI-b signalling through interaction with the tyrosine kinase receptor Ror2. Genes To Cells, 2004, 9, 1227-1238.	1.2	98
86	Signal transduction of bone morphogenetic protein receptors. Cellular Signalling, 2004, 16, 291-299.	3.6	484
87	Proteins associated with type II bone morphogenetic protein receptor (BMPR-II) and identified by two-dimensional gel electrophoresis and mass spectrometry. Proteomics, 2004, 4, 1346-1358.	2.2	89
88	Identification and characterisation of two distinct Smad proteins from the fox-tapeworm Echinococcus multilocularis. International Journal for Parasitology, 2003, 33, 1665-1677.	3.1	38
89	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, 3277-3284.	2.0	53
90	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, 12277-12282.	7.1	161

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91	Transforming growth factor-beta1 reduces megalin- and cubilin-mediated endocytosis of albumin in proximal-tubule-derived opossum kidney cells. Journal of Physiology, 2003, 552, 471-481.	2.9	84
92	The Mode of Bone Morphogenetic Protein (BMP) Receptor Oligomerization Determines Different BMP-2 Signaling Pathways. Journal of Biological Chemistry, 2002, 277, 5330-5338.	3.4	484
93	Integration of the TGF-Î² pathway into the cellular signalling network. Cellular Signalling, 2002, 14, 977-988.	3.6	164
94	Resistance to TGF-Î²1-mediated growth inhibition correlates with sustained Smad2 phosphorylation in primary murine splenocytes. European Journal of Immunology, 2002, 32, 1393.	2.9	2
95	Radiation-Induced Reduction of BMP-Induced Proteoglycan Synthesis in an Embryonal Mesenchymal Tissue Equivalent Using the Chicken â€œLimb Budâ€•Test. Strahlentherapie Und Onkologie, 2001, 177, 432-436.	2.0	12
96	A Particle-Associated Glycoprotein Signal Peptide Essential for Virus Maturation and Infectivity. Journal of Virology, 2001, 75, 5762-5771.	3.4	112
97	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, 1023-1035.	2.1	263
98	The Soluble Exoplasmic Domain of the Type II Transforming Growth Factor (TGF)-Î² Receptor. Journal of Biological Chemistry, 1995, 270, 2747-2754.	3.4	108
99	Synaptoporin, a novel putative channel protein of synaptic vesicles. Neuron, 1990, 5, 453-462.	8.1	126
100	Mapping of a dominant immunogenic region of synaptophysin, a major membrane protein of synaptic vesicles. FEBS Letters, 1990, 261, 358-360.	2.8	29
101	Expression of Synaptophysin During Postnatal Development of the Mouse Brain. Journal of Neurochemistry, 1986, 47, 1302-1304.	3.9	166