Frauke Melchior

List of Publications by Year
in descending order

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86 papers	13,680 citations	36303 51 h-index	51608 86 g-index

96 all docs	96 docs citations	96 times ranked	11097 citing authors

#	Article	IF	Citations
1	Concepts in sumoylation: a decade on. Nature Reviews Molecular Cell Biology, 2007, 8, 947-956.	37.0	1,526
2	A Small Ubiquitin-Related Polypeptide Involved in Targeting RanGAP1 to Nuclear Pore Complex Protein RanBP2. Cell, 1997, 88, 97-107.	28.9	1,125
3	Sumoylation: A Regulatory Protein Modification in Health and Disease. Annual Review of Biochemistry, 2013, 82, 357-385.	11.1	918
4	The Nucleoporin RanBP2 Has SUMO1 E3 Ligase Activity. Cell, 2002, 108, 109-120.	28.9	714
5	SUMOâ€"Nonclassical Ubiquitin. Annual Review of Cell and Developmental Biology, 2000, 16, 591-626.	9.4	702
6	Inhibition of nuclear protein import by nonhydrolyzable analogues of GTP and identification of the small GTPase Ran/TC4 as an essential transport factor [published erratum appears in J Cell Biol 1994 Jan;124(1-2):217]. Journal of Cell Biology, 1993, 123, 1649-1659.	5.2	545
7	PIASy, a nuclear matrix-associated SUMO E3 ligase, represses LEF1 activity by sequestration into nuclear bodies. Genes and Development, 2001, 15, 3088-3103.	5.9	464
8	Nuclear Pore Complex Structure and Dynamics Revealed by Cryoelectron Tomography. Science, 2004, 306, 1387-1390.	12.6	451
9	Structure determination of the small ubiquitin-related modifier SUMO-1. Journal of Molecular Biology, 1998, 280, 275-286.	4.2	356
10	SUMO: ligases, isopeptidases and nuclear pores. Trends in Biochemical Sciences, 2003, 28, 612-618.	7.5	355
11	Regulation of SUMOylation by Reversible Oxidation of SUMO Conjugating Enzymes. Molecular Cell, 2006, 21, 349-357.	9.7	323
12	The SUMO E3 ligase RanBP2 promotes modification of the HDAC4 deacetylase. EMBO Journal, 2002, 21, 2682-2691.	7.8	284
13	Bicaudal D2, Dynein, and Kinesin-1 Associate with Nuclear Pore Complexes and Regulate Centrosome and Nuclear Positioning during Mitotic Entry. PLoS Biology, 2010, 8, e1000350.	5.6	268
14	Molecular Characterization of the SUMO-1 Modification of RanGAP1 and Its Role in Nuclear Envelope Association. Journal of Cell Biology, 1998, 140, 259-270.	5.2	255
15	Mechanisms of nuclear protein import. Current Opinion in Cell Biology, 1995, 7, 310-318.	5.4	246
16	Transcription factor Sp3 is silenced through SUMO modification by PIAS1. EMBO Journal, 2002, 21, 5206-5215.	7.8	234
17	Sumoylation inhibits Î±-synuclein aggregation and toxicity. Journal of Cell Biology, 2011, 194, 49-60.	5.2	210
18	Mechanism and Consequences for Paralog-Specific Sumoylation of Ubiquitin-Specific Protease 25. Molecular Cell, 2008, 30, 610-619.	9.7	202

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19	Detecting endogenous SUMO targets in mammalian cells and tissues. Nature Structural and Molecular Biology, 2013, 20, 525-531.	8.2	188
20	SUMO modification of the ubiquitin-conjugating enzyme E2-25K. Nature Structural and Molecular Biology, 2005, 12, 264-269.	8.2	175
21	CRM1/Ran-Mediated Nuclear Export of p27Kip1Involves a Nuclear Export Signal and Links p27 Export and Proteolysis. Molecular Biology of the Cell, 2003, 14, 201-213.	2.1	174
22	Ubiquitin-Related Modifier SUMO1 and Nucleocytoplasmic Transport. Traffic, 2002, 3, 381-387.	2.7	156
23	Opposed Regulation of Corepressor CtBP by SUMOylation and PDZ Binding. Molecular Cell, 2003, 11, 1389-1396.	9.7	155
24	The RanBP2/RanGAP1âˆ—SUMO1/Ubc9 Complex Is a Multisubunit SUMO E3 Ligase. Molecular Cell, 2012, 46, 287-298.	9.7	145
25	Ubiquitinâ€specific proteaseâ€like 1 (USPL1) is a SUMO isopeptidase with essential, nonâ€catalytic functions. EMBO Reports, 2012, 13, 930-938.	4.5	143
26	GTP hydrolysis by Ran occurs at the nuclear pore complex in an early step of protein import.. Journal of Cell Biology, 1995, 131, 571-581.	5.2	141
27	Two-way trafficking with Ran. Trends in Cell Biology, 1998, 8, 175-179.	7.9	141
28	SUMO. Nature, 2008, 452, 709-711.	27.8	141
29	The RanBP2 SUMO E3 ligase is neither HECT- nor RING-type. Nature Structural and Molecular Biology, 2004, 11, 984-991.	8.2	134
30	Modification of Ran GTPase-activating Protein by the Small Ubiquitin-related Modifier SUMO-1 Requires Ubc9, an E2-type Ubiquitin-conjugating Enzyme Homologue. Journal of Biological Chemistry, 1998, 273, 6503-6507.	3.4	132
31	RanGTP Targets p97 to RanBP2, a Filamentous Protein Localized at the Cytoplasmic Periphery of the Nuclear Pore Complex. Molecular Biology of the Cell, 1997, 8, 2379-2390.	2.1	131
32	SUMO: regulating the regulator. Cell Division, 2006, 1, 13.	2.4	130
33	The Nup358-RanGAP Complex Is Required for Efficient Importin Î±/Î²-dependent Nuclear Import. Molecular Biology of the Cell, 2008, 19, 2300-2310.	2.1	122
34	RNA1 Encodes a GTPase-activating Protein Specific for Gsp1p, the Ran/TC4 Homologue of Saccharomyces cerevisiae. Journal of Biological Chemistry, 1995, 270, 11860-11865.	3.4	121
35	Activation of Transforming Growth Factor-Î² Signaling by SUMO-1 Modification of Tumor Suppressor Smad4/DPC4. Journal of Biological Chemistry, 2003, 278, 18714-18719.	3.4	121
36	Induction of stilbene synthase by Botrytis cinerea in cultured grapevine cells. Planta, 1991, 183, 307-14.	3.2	95

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37	The Cytoplasmic Peptidase DPP9 Is Rate-limiting for Degradation of Proline-containing Peptides. Journal of Biological Chemistry, 2009, 284, 27211-27219.	3.4	95
38	Thiolutin is a zinc chelator that inhibits the Rpn11 and other JAMM metalloproteases. Nature Chemical Biology, 2017, 13, 709-714.	8.0	95
39	Coordinate- and elicitor-dependent expression of stilbene synthase and phenylalanine ammonia-lyase genes in Vitis cv. Optima. Archives of Biochemistry and Biophysics, 1991, 288, 552-557.	3.0	86
40	SUMO-1 and p53. Cell Cycle, 2002, 1, 243-247.	2.6	83
41	In vivo localization and identification of SUMOylated proteins in the brain of His ₆ -HA-SUMO1 knock-in mice. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 21122-21127.	7.1	83
42	Grapevine stilbene synthase cDNA only slightly differing from chalcone synthase cDNA is expressed inEscherichia coliinto a catalytically active enzyme. FEBS Letters, 1990, 268, 17-20.	2.8	81
43	The RanBP2/RanGAP1*SUMO1/Ubc9 SUMO E3 ligase is a disassembly machine for Crm1-dependent nuclear export complexes. Nature Communications, 2016, 7, 11482.	12.8	79
44	Regulation of Smad4 Sumoylation and Transforming Growth Factor-Î² Signaling by Protein Inhibitor of Activated STAT1. Journal of Biological Chemistry, 2004, 279, 22857-22865.	3.4	77
45	SUMOylation-Dependent LRH-1/PROX1 Interaction Promotes Atherosclerosis by Decreasing Hepatic Reverse Cholesterol Transport. Cell Metabolism, 2014, 20, 603-613.	16.2	73
46	Dynamically regulated sumoylation of HDAC2 controls p53 deacetylation and restricts apoptosis following genotoxic stress. Journal of Molecular Cell Biology, 2012, 4, 284-293.	3.3	70
47	Identification and analysis of endogenous SUMO1 and SUMO2/3 targets in mammalian cells and tissues using monoclonal antibodies. Nature Protocols, 2014, 9, 896-909.	12.0	69
48	RanGAP1*SUMO1 is phosphorylated at the onset of mitosis and remains associated with RanBP2 upon NPC disassembly. Journal of Cell Biology, 2004, 164, 965-971.	5.2	58
49	[30] Analysis of Ran/TC4 function in nuclear protein import. Methods in Enzymology, 1995, 257, 279-291.	1.0	57
50	â€œChopNSpice,â€•a Mass Spectrometric Approach That Allows Identification of Endogenous Small Ubiquitin-like Modifier-conjugated Peptides. Molecular and Cellular Proteomics, 2009, 8, 2664-2675.	3.8	57
51	Performing In Vitro Sumoylation Reactions Using Recombinant Enzymes. Methods in Molecular Biology, 2009, 497, 187-199.	0.9	55
52	A Novel SUMO1-specific Interacting Motif in Dipeptidyl Peptidase 9 (DPP9) That Is Important for Enzymatic Regulation. Journal of Biological Chemistry, 2012, 287, 44320-44329.	3.4	53
53	SUMOylation of the Corepressor N-CoR Modulates Its Capacity to Repress Transcription. Molecular Biology of the Cell, 2006, 17, 1643-1651.	2.1	51
54	A role for the CB-associated SUMO isopeptidase USPL1 in RNAPII-mediated snRNA transcription. Journal of Cell Science, 2014, 127, 1065-78.	2.0	48

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55	SUMO-1 and p53. Cell Cycle, 2002, 1, 245-9.	2.6	48
56	Sumoylation and proteasomal activity determine the transactivation properties of the mineralocorticoid receptor. Molecular and Cellular Endocrinology, 2007, 268, 20-29.	3.2	46
57	Control of SUMO and Ubiquitin by ROS: Signaling and disease implications. Molecular Aspects of Medicine, 2018, 63, 3-17.	6.4	44
58	A Fluorescence Resonance Energy Transferâ€Based Assay to Study SUMO Modification in Solution. Methods in Enzymology, 2005, 398, 20-32.	1.0	40
59	Quantitative SUMO-1 Modification of a Vaccinia Virus Protein Is Required for Its Specific Localization and Prevents Its Self-Association. Molecular Biology of the Cell, 2005, 16, 2822-2835.	2.1	39
60	Phosphorusâ€“carbon bond cleavage at a di-iron centre. Conversion of Âµ-R2PCH2PR2to Âµ-R2PCH2and Âµ-PR2: crystal structures of [Fe2(CO)4(Âµ-Ph2PCH2)(Âµ-PPh2)(Âµ-Me2PCH2PMe2)] and [Fe2(CO)6{Âµ-PhPCH(Me)P(Ph)(C6H4-O)}]. Journal of the Chemical Society Chemical Communications, 1986, , 540-542.	2.0	36
61	Redox regulation of <scp>SUMO</scp> enzymes is required for <scp>ATM</scp> activity and survival in oxidative stress. EMBO Journal, 2016, 35, 1312-1329.	7.8	35
62	SCFFbxw5 mediates transient degradation of actin remodeller Eps8 to allow proper mitotic progression. Nature Cell Biology, 2013, 15, 179-188.	10.3	32
63	Sumoylation of the GTPase Ran by the RanBP2 SUMO E3 Ligase Complex. Journal of Biological Chemistry, 2015, 290, 23589-23602.	3.4	32
64	Phosphorus-carbon bond cleavage at a di-iron centre: synthesis of Î¼-phosphidomethyl complexes [Fe2(CO)6(Î¼-CH2PR2)(Î¼-PR2)] from [Fe2(CO)6(Î¼-R2PCH2PR2)]. Inorganica Chimica Acta, 1992, 198-200, 257-270.	2.4	31
65	The ubiquitin-like modifier FAT10 interferes with SUMO activation. Nature Communications, 2019, 10, 4452.	12.8	29
66	Ran GTPase cycle: One mechanism â€" two functions. Current Biology, 2001, 11, R257-R260.	3.9	28
67	Plant Polyketide Synthases Leading to Stilbenoids Have a Domain Catalyzing Malonyl-CoA:CO2 Exchange, Malonyl-CoA Decarboxylation, and Covalent Enzyme Modification and a Site for Chain Lengthening. Biochemistry, 1997, 36, 8349-8358.	2.5	24
68	IRAK2 directs stimulus-dependent nuclear export of inflammatory mRNAs. ELife, 2017, 6, .	6.0	22
69	Hypoxia-induced Changes in SUMO Conjugation Affect Transcriptional Regulation Under Low Oxygen. Molecular and Cellular Proteomics, 2019, 18, 1197-1209.	3.8	20
70	Importin Î±/Î² mediates nuclear import of individual SUMO E1 subunits and of the holo-enzyme. Molecular Biology of the Cell, 2011, 22, 652-660.	2.1	19
71	Recombinant Reconstitution of Sumoylation Reactions In Vitro. Methods in Molecular Biology, 2012, 832, 93-110.	0.9	19
72	Mdm2â€“SUMO1: is bigger better?. Nature Cell Biology, 2000, 2, E161-E163.	10.3	18

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73	An In Vitro FRET-Based Assay for the Analysis of SUMO Conjugation and Isopeptidase Cleavage. Methods in Molecular Biology, 2009, 497, 241-251.	0.9	17
74	Heat shock transcription factor 1 is SUMOylated in the activated trimeric state. Journal of Biological Chemistry, 2021, 296, 100324.	3.4	15
75	Exploring the association between genetic variation in the <scp>SUMO</scp> isopeptidase gene <scp>USPL1</scp> and breast cancer through integration of data from the populationâ€based <scp>GENICA</scp> study and external genetic databases. International Journal of Cancer, 2013, 133, 362-372.	5.1	13
76	The Ran GTPase-Activating Protein (RanGAP1) Is Critically Involved in Smooth Muscle Cell Differentiation, Proliferation and Migration following Vascular Injury: Implications for Neointima Formation and Restenosis. PLoS ONE, 2014, 9, e101519.	2.5	13
77	Transient deSUMOylation of IRF2BP proteins controls early transcription in EGFR signaling. EMBO Reports, 2021, 22, e49651.	4.5	13
78	Nuclear Protein Import in a Permeabilized Cell Assay. , 1998, 88, 265-274.		12
79	SCF ^{Fbxw5} targets kinesinâ€13 proteins to facilitate ciliogenesis. EMBO Journal, 2021, 40, e107735.	7.8	12
80	The Sumo proteome of proliferating and neuronal-differentiating cells reveals Utf1 among key Sumo targets involved in neurogenesis. Cell Death and Disease, 2021, 12, 305.	6.3	10
81	A Stable Chemical SUMO1â€“Ubc9 Conjugate Specifically Binds as a Thioester Mimic to the RanBP2â€“E3 Ligase Complex. ChemBioChem, 2015, 16, 1183-1189.	2.6	6
82	Nucleocytoplasmic Transport. Developmental Cell, 2002, 3, 304-306.	7.0	4
83	Reconstitution of the Recombinant RanBP2 SUMO E3 Ligase Complex. Methods in Molecular Biology, 2016, 1475, 41-54.	0.9	2
84	Sumoylation inhibits a-synuclein aggregation and toxicity. Journal of Experimental Medicine, 2011, 208, i23-i23.	8.5	2
85	SUMO unloads the Kap114 cab. EMBO Journal, 2012, 31, 2439-2440.	7.8	1
86	SUMO Modification. , 2004, , 130-134.		0