Roland Lill

List of Publications by Year
in descending order

124 papers	17,634 citations	9264 74 h-index	16650 123 g-index
129 all docs	129 docs citations	129 times ranked	10323 citing authors

#	Article	IF	Citations
1	Function and biogenesis of ironâ€"sulphur proteins. Nature, 2009, 460, 831-838.	27.8	989
2	The mitochondrial proteins Atm1p and Nfs1p are essential for biogenesis of cytosolic Fe/S proteins. EMBO Journal, 1999, 18, 3981-3989.	7.8	669
3	The ATPase activity of secA is regulated by acidic phospholipids, secY, and the leader and mature domains of precursor proteins. Cell, 1990, 60, 271-280.	28.9	576
4	Maturation of Iron-Sulfur Proteins in Eukaryotes: Mechanisms, Connected Processes, and Diseases. Annual Review of Biochemistry, 2008, 77, 669-700.	11.1	531
5	The role of mitochondria in cellular ironâ€"sulfur protein biogenesis and iron metabolism. Biochimica Et Biophysica Acta - Molecular Cell Research, 2012, 1823, 1491-1508.	4.1	404
6	Maturation of cellular Feâ€"S proteins: an essential function of mitochondria. Trends in Biochemical Sciences, 2000, 25, 352-356.	7.5	346
7	Components involved in assembly and dislocation of iron-sulfur clusters on the scaffold protein Isu1p. EMBO Journal, 2003, 22, 4815-4825.	7.8	344
8	Eukaryotic DNA polymerases require an iron-sulfur cluster for the formation of active complexes. Nature Chemical Biology, 2012, 8, 125-132.	8.0	342
9	An interaction between frataxin and Isu1/Nfs1 that is crucial for Fe/S cluster synthesis on Isu1. EMBO Reports, 2003, 4, 906-911.	4.5	329
10	Iron-Sulfur Protein Biogenesis in Eukaryotes: Components and Mechanisms. Annual Review of Cell and Developmental Biology, 2006, 22, 457-486.	9.4	327
11	The yeast frataxin homolog Yfh1p plays a specific role in the maturation of cellular Fe/S proteins. Human Molecular Genetics, 2002, 11, 2025-2036.	2.9	291
12	Humans possess two mitochondrial ferredoxins, Fdx1 and Fdx2, with distinct roles in steroidogenesis, heme, and Fe/S cluster biosynthesis. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 11775-11780.	7.1	279
13	Ironâ€"sulfur cluster biogenesis and trafficking in mitochondria. Journal of Biological Chemistry, 2017, 292, 12754-12763.	3.4	278
14	Mmicular mechanisms of cytochromecbiogenesis: three distinct systems. Molecular Microbiology, 1998, 29, 383-396.	2.5	266
15	An essential function of the mitochondrial sulfhydryl oxidase Erv1p/ALR in the maturation of cytosolic Fe/S proteins. EMBO Reports, 2001, 2, 715-720.	4.5	265
16	Cytosolic Monothiol Glutaredoxins Function in Intracellular Iron Sensing and Trafficking via Their Bound Iron-Sulfur Cluster. Cell Metabolism, 2010, 12, 373-385.	16.2	263
17	A Fatal Mitochondrial Disease Is Associated with Defective NFU1 Function in the Maturation of a Subset of Mitochondrial Fe-S Proteins. American Journal of Human Genetics, 2011, 89, 656-667.	6.2	262
18	The ABC transporter Atm1p is required for mitochondrial iron homeostasis. FEBS Letters, 1997, 418, 346-350.	2.8	260

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19	MMS19 Assembles Iron-Sulfur Proteins Required for DNA Metabolism and Genomic Integrity. Science, 2012, 337, 195-199.	12.6	255
20	A Mutation of the Mitochondrial ABC Transporter Sta1 Leads to Dwarfism and Chlorosis in the Arabidopsis Mutant starik. Plant Cell, 2001, 13, 89-100.	6.6	253
21	Human ABC7 transporter: gene structure and mutation causing X-linked sideroblastic anemia with ataxia with disruption of cytosolic iron-sulfur protein maturation. Blood, 2000, 96, 3256-3264.	1.4	247
22	Mitochondrial ironâ€"sulfur protein biogenesis and human disease. Biochimie, 2014, 100, 61-77.	2.6	227
23	Biogenesis of cytosolic ribosomes requires the essential ironâ€"sulphur protein Rli1p and mitochondria. EMBO Journal, 2005, 24, 589-598.	7.8	226
24	Role of Glutaredoxin-3 and Glutaredoxin-4 in the Iron Regulation of the Aft1 Transcriptional Activator in Saccharomyces cerevisiae. Journal of Biological Chemistry, 2006, 281, 17661-17669.	3.4	220
25	Mechanisms of Mitochondrial Iron-Sulfur Protein Biogenesis. Annual Review of Biochemistry, 2020, 89, 471-499.	11.1	220
26	Activation of the Iron Regulon by the Yeast Aft1/Aft2 Transcription Factors Depends on Mitochondrial but Not Cytosolic Iron-Sulfur Protein Biogenesis. Journal of Biological Chemistry, 2005, 280, 10135-10140.	3.4	215
27	Localization and functionality of microsporidian ironâ€"sulphur cluster assembly proteins. Nature, 2008, 452, 624-628.	27.8	210
28	Essential role of Isd11 in mitochondrial ironâ€"sulfur cluster synthesis on Isu scaffold proteins. EMBO Journal, 2006, 25, 184-195.	7.8	204
29	The hydrogenase-like Nar1p is essential for maturation of cytosolic and nuclear ironâ€"sulphur proteins. EMBO Journal, 2004, 23, 2105-2115.	7.8	196
30	Crystal Structures of Nucleotide-Free and Glutathione-Bound Mitochondrial ABC Transporter Atm1. Science, 2014, 343, 1137-1140.	12.6	195
31	Biogenesis of cytosolic and nuclear ironâ€"sulfur proteins and their role in genome stability. Biochimica Et Biophysica Acta - Molecular Cell Research, 2015, 1853, 1528-1539.	4.1	192
32	Maturation of Cytosolic Iron-Sulfur Proteins Requires Glutathione. Journal of Biological Chemistry, 2002, 277, 26944-26949.	3.4	190
33	The human mitochondrial ISCA1, ISCA2, and IBA57 proteins are required for [4Fe-4S] protein maturation. Molecular Biology of the Cell, 2012, 23, 1157-1166.	2.1	185
34	Human Ind1, an Iron-Sulfur Cluster Assembly Factor for Respiratory Complex I. Molecular and Cellular Biology, 2009, 29, 6059-6073.	2.3	184
35	Ironâ€"sulfur protein maturation in human cells: evidence for a function of frataxin. Human Molecular Genetics, 2004, 13, 3007-3015.	2.9	183
36	Biogenesis of ironâ€"sulfur proteins in eukaryotes: a novel task of mitochondria that is inherited from bacteria. Biochimica Et Biophysica Acta - Bioenergetics, 2000, 1459, 370-382.	1.0	179

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37	Tah18 transfers electrons to Dre2 in cytosolic iron-sulfur protein biogenesis. Nature Chemical Biology, 2010, 6, 758-765.	8.0	176
38	A Specific Role of the Yeast Mitochondrial Carriers Mrs3/4p in Mitochondrial Iron Acquisition under Iron-limiting Conditions. Journal of Biological Chemistry, 2003, 278, 40612-40620.	3.4	173
39	Structural and functional diversity calls for a new classification of ABC transporters. FEBS Letters, 2020, 594, 3767-3775.	2.8	169
40	The Cfd1â€"Nbp35 complex acts as a scaffold for iron-sulfur protein assembly in the yeast cytosol. Nature Chemical Biology, 2007, 3, 278-286.	8.0	166
41	Mitochondrial Iba57p Is Required for Fe/S Cluster Formation on Aconitase and Activation of Radical SAM Enzymes. Molecular and Cellular Biology, 2008, 28, 1851-1861.	2.3	161
42	The ironâ€"sulphur protein Ind1 is required for effective complex I assembly. EMBO Journal, 2008, 27, 1736-1746.	7.8	158
43	Maturation of cytosolic and nuclear ironâ€"sulfur proteins. Trends in Cell Biology, 2014, 24, 303-312.	7.9	158
44	The role of mitochondria and the CIA machinery in the maturation of cytosolic and nuclear ironâ€"sulfur proteins. European Journal of Cell Biology, 2015, 94, 280-291.	3.6	158
45	The Role of Mitochondria in Cellular Iron-Sulfur Protein Biogenesis: Mechanisms, Connected Processes, and Diseases. Cold Spring Harbor Perspectives in Biology, 2013, 5, a011312-a011312.	5.5	157
46	The eukaryotic P loop NTPase Nbp35: An essential component of the cytosolic and nuclear iron-sulfur protein assembly machinery. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 3266-3271.	7.1	156
47	Role of Human Mitochondrial Nfs1 in Cytosolic Iron-Sulfur Protein Biogenesis and Iron Regulation. Molecular and Cellular Biology, 2006, 26, 5675-5687.	2.3	156
48	Chapter 2 Isolation and subfractionation of mitochondria from the yeast Saccharomyces cerevisiae. Methods in Cell Biology, 2001, 65, 37-51.	1.1	153
49	Mechanism of Iron Transport to the Site of Heme Synthesis inside Yeast Mitochondria. Journal of Biological Chemistry, 1999, 274, 18989-18996.	3.4	151
50	Human CIA2A-FAM96A and CIA2B-FAM96B Integrate Iron Homeostasis and Maturation of Different Subsets of Cytosolic-Nuclear Iron-Sulfur Proteins. Cell Metabolism, 2013, 18, 187-198.	16.2	144
51	Structure and functional dynamics of the mitochondrial Fe/S cluster synthesis complex. Nature Communications, 2017, 8, 1287.	12.8	144
52	Specialized Function of Yeast Isa1 and Isa2 Proteins in the Maturation of Mitochondrial [4Fe-4S] Proteins. Journal of Biological Chemistry, 2011, 286, 41205-41216.	3.4	143
53	The Essential Role of Mitochondria in the Biogenesis of Cellular Iron-Sulfur Proteins. Biological Chemistry, 1999, 380, 1157-66.	2.5	137
54	Functional reconstitution of mitochondrial Fe/S cluster synthesis on Isu1 reveals the involvement of ferredoxin. Nature Communications, 2014, 5, 5013.	12.8	136

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55	The effects of mitochondrial iron homeostasis on cofactor specificity of superoxide dismutase 2. EMBO Journal, 2006, 25, 1775-1783.	7.8	131
56	Mechanisms of protein import across the mitochondrial outer membrane. Trends in Cell Biology, 1996, 6, 56-61.	7.9	122
57	The mitochondrial Hsp70 chaperone Ssq1 facilitates Fe/S cluster transfer from Isu1 to Grx5 by complex formation. Molecular Biology of the Cell, 2013, 24, 1830-1841.	2.1	122
58	Functional Characterization of the Eukaryotic Cysteine Desulfurase Nfs1p from Saccharomyces cerevisiae. Journal of Biological Chemistry, 2004, 279, 36906-36915.	3.4	119
59	The Essential WD40 Protein Cia1 Is Involved in a Late Step of Cytosolic and Nuclear Iron-Sulfur Protein Assembly. Molecular and Cellular Biology, 2005, 25, 10833-10841.	2.3	118
60	The role of mitochondria in cytosolic-nuclear ironâ€"sulfur protein biogenesis and in cellular iron regulation. Current Opinion in Microbiology, 2014, 22, 111-119.	5.1	113
61	Mechanistic concepts of iron-sulfur protein biogenesis in Biology. Biochimica Et Biophysica Acta - Molecular Cell Research, 2021, 1868, 118863.	4.1	113
62	Isa1p Is a Component of the Mitochondrial Machinery for Maturation of Cellular Iron-Sulfur Proteins and Requires Conserved Cysteine Residues for Function. Journal of Biological Chemistry, 2000, 275, 15955-15961.	3.4	111
63	The Yeast Scaffold Proteins Isu1p and Isu2p Are Required inside Mitochondria for Maturation of Cytosolic Fe/S Proteins. Molecular and Cellular Biology, 2004, 24, 4848-4857.	2.3	111
64	Role of Nfu1 and Bol3 in iron-sulfur cluster transfer to mitochondrial clients. ELife, 2016, 5, .	6.0	107
65	Cellular and Mitochondrial Remodeling upon Defects in Iron-Sulfur Protein Biogenesis. Journal of Biological Chemistry, 2008, 283, 8318-8330.	3.4	103
66	Mutation of the iron-sulfur cluster assembly gene IBA57 causes severe myopathy and encephalopathy. Human Molecular Genetics, 2013, 22, 2590-2602.	2.9	103
67	Crucial function of vertebrate glutaredoxin 3 (PICOT) in iron homeostasis and hemoglobin maturation. Molecular Biology of the Cell, 2013, 24, 1895-1903.	2.1	101
68	Human Nbp35 Is Essential for both Cytosolic Iron-Sulfur Protein Assembly and Iron Homeostasis. Molecular and Cellular Biology, 2008, 28, 5517-5528.	2.3	98
69	Mitochondrial Bol1 and Bol3 function as assembly factors for specific iron-sulfur proteins. ELife, 2016, 5, .	6.0	96
70	Viperin is an iron-sulfur protein that inhibits genome synthesis of tick-borne encephalitis virus via radical SAM domain activity. Cellular Microbiology, 2014, 16, 834-848.	2.1	94
71	Heme Binding to a Conserved Cys-Pro-Val Motif Is Crucial for the Catalytic Function of Mitochondrial Heme Lyases. Journal of Biological Chemistry, 1996, 271, 32605-32611.	3.4	93
72	Yeast Erv2p Is the First Microsomal FAD-linked Sulfhydryl Oxidase of the Erv1p/Alrp Protein Family. Journal of Biological Chemistry, 2001, 276, 23486-23491.	3.4	92

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73	A Bridging [4Fe-4S] Cluster and Nucleotide Binding Are Essential for Function of the Cfd1-Nbp35 Complex as a Scaffold in Iron-Sulfur Protein Maturation. Journal of Biological Chemistry, 2012, 287, 12365-12378.	3.4	91
74	Analysis of ironâ€“sulfur protein maturation in eukaryotes. Nature Protocols, 2009, 4, 753-766.	12.0	87
75	The mitochondrial monothiol glutaredoxin S15 is essential for iron-sulfur protein maturation in <i>Arabidopsis thaliana</i>. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 13735-13740.	7.1	84
76	Compartmentalization of iron between mitochondria and the cytosol and its regulation. European Journal of Cell Biology, 2015, 94, 292-308.	3.6	76
77	Structure of the Yeast WD40 Domain Protein Cia1, a Component Acting Late in Iron-Sulfur Protein Biogenesis. Structure, 2007, 15, 1246-1257.	3.3	74
78	Mitochondrial Isa2p plays a crucial role in the maturation of cellular iron-sulfur proteins. FEBS Letters, 2000, 476, 134-139.	2.8	73
79	Systematic identification of metabolites controlling gene expression in E. coli. Nature Communications, 2019, 10, 4463.	12.8	71
80	Stimulation of the ATPase activity of the yeast mitochondrial ABC transporter Atm1p by thiol compounds. Molecular Membrane Biology, 2006, 23, 173-184.	2.0	70
81	The Essential Cytosolic Iron-Sulfur Protein Nbp35 Acts without Cfd1 Partner in the Green Lineage. Journal of Biological Chemistry, 2008, 283, 35797-35804.	3.4	68
82	Evolutionary conservation and in vitro reconstitution of microsporidian ironâ€“sulfur cluster biosynthesis. Nature Communications, 2017, 8, 13932.	12.8	67
83	Thio Modification of Yeast Cytosolic tRNA Is an Iron-Sulfur Protein-Dependent Pathway. Molecular and Cellular Biology, 2007, 27, 2841-2847.	2.3	66
84	EPR and MÃ¶ssbauer Spectroscopy of Intact Mitochondria Isolated from Yah1p-Depleted <i>Saccharomyces cerevisiae</i>. Biochemistry, 2008, 47, 9888-9899.	2.5	64
85	Fe/S protein assembly gene <i>IBA57</i> mutation causes hereditary spastic paraplegia. Neurology, 2015, 84, 659-667.	1.1	64
86	The deca-GX3 proteins Yae1-Lto1 function as adaptors recruiting the ABC protein Rli1 for iron-sulfur cluster insertion. ELife, 2015, 4, e08231.	6.0	62
87	Biochemical Reconstitution and Spectroscopic Analysis of Ironâ€“Sulfur Proteins. Methods in Enzymology, 2018, 599, 197-226.	1.0	61
88	Mitochondrial [4Fe-4S] protein assembly involves reductive [2Fe-2S] cluster fusion on ISCA1â€“ISCA2 by electron flow from ferredoxin FDX2. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 20555-20565.	7.1	59
89	The Multidomain Thioredoxin-Monothiol Glutaredoxins Represent a Distinct Functional Group. Antioxidants and Redox Signaling, 2011, 15, 19-30.	5.4	54
90	Bacterial ApbC Can Bind and Effectively Transfer Ironâ^'Sulfur Clusters. Biochemistry, 2008, 47, 8195-8202.	2.5	52

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91	Crucial Role of Conserved Cysteine Residues in the Assembly of Two Ironâ˘’Sulfur Clusters on the CIA Protein Nar1. Biochemistry, 2009, 48, 4946-4958.	2.5	46
92	The Basic Leucine Zipper Stress Response Regulator Yap5 Senses High-Iron Conditions by Coordination of [2Fe-2S] Clusters. Molecular and Cellular Biology, 2015, 35, 370-378.	2.3	46
93	The power plant of the cell is also a smithy: The emerging role of mitochondria in cellular iron homeostasis. Annals of Medicine, 2009, 41, 82-99.	3.8	43
94	Mutation of the ironâ€sulfur cluster assembly gene <i>IBA57</i> causes fatal infantile leukodystrophy. Journal of Inherited Metabolic Disease, 2015, 38, 1147-1153.	3.6	43
95	From the discovery to molecular understanding of cellular iron-sulfur protein biogenesis. Biological Chemistry, 2020, 401, 855-876.	2.5	43
96	Iron Regulation through the Back Door: Iron-Dependent Metabolite Levels Contribute to Transcriptional Adaptation to Iron Deprivation in Saccharomyces cerevisiae. Eukaryotic Cell, 2010, 9, 460-471.	3.4	42
97	<i>Cryptococcus neoformans</i> Iron-Sulfur Protein Biogenesis Machinery Is a Novel Layer of Protection against Cu Stress. MBio, 2017, 8, .	4.1	41
98	Methods for Studying Iron Metabolism in Yeast Mitochondria. Methods in Cell Biology, 2007, 80, 261-280.	1.1	35
99	The conserved protein Dre2 uses essential [2Feâ€“2S] and [4Feâ€“4S] clusters for its function in cytosolic ironâ€“sulfur protein assembly. Biochemical Journal, 2016, 473, 2073-2085.	3.7	35
100	Cellular requirements for ironâ€“sulfur cluster insertion into the antiviral radical SAM protein viperin. Journal of Biological Chemistry, 2017, 292, 13879-13889.	3.4	35
101	Glycogen branching enzyme controls cellular iron homeostasis via Iron Regulatory Protein 1 and mitoNEET. Nature Communications, 2019, 10, 5463.	12.8	34
102	The oxidative stress response in yeast cells involves changes in the stability of Aft1 regulon mRNAs. Molecular Microbiology, 2011, 81, 232-248.	2.5	33
103	Redox Modification of the Iron-Sulfur Glutaredoxin GRXS17 Activates Holdase Activity and Protects Plants from Heat Stress. Plant Physiology, 2020, 184, 676-692.	4.8	33
104	The mitochondrial carrier Rim2 co-imports pyrimidine nucleotides and iron. Biochemical Journal, 2013, 455, 57-65.	3.7	31
105	A novel complex neurological phenotype due to a homozygous mutation in FDX2. Brain, 2018, 141, 2289-2298.	7.6	29
106	Glutaredoxins and iron-sulfur protein biogenesis at the interface of redox biology and iron metabolism. Biological Chemistry, 2020, 401, 1407-1428.	2.5	29
107	The alarmone (p)ppGpp confers tolerance to oxidative stress during the stationary phase by maintenance of redox and iron homeostasis in Staphylococcus aureus. Free Radical Biology and Medicine, 2020, 161, 351-364.	2.9	27
108	Function and crystal structure of the dimeric P-loop ATPase CFD1 coordinating an exposed [4Fe-4S] cluster for transfer to apoproteins. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E9085-E9094.	7.1	26

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109	A novel de novo dominant mutation in<i>ISCU</i>associated with mitochondrial myopathy. Journal of Medical Genetics, 2017, 54, 815-824.	3.2	25
110	ISCA1 mutation in a patient with infantile-onset leukodystrophy causes defects in mitochondrial [4Feâ€"4S] proteins. Human Molecular Genetics, 2018, 27, 2739-2754.	2.9	25
111	Cytosolic ironâ€sulphur protein assembly is functionally conserved and essential in procyclic and bloodstream <scp><i>T</i></scp><i>rypanosoma brucei</i>. Molecular Microbiology, 2014, 93, 897-910.	2.5	23
112	Conserved functions of Arabidopsis mitochondrial late-acting maturation factors in the trafficking of ironâ€‘sulfur clusters. Biochimica Et Biophysica Acta - Molecular Cell Research, 2018, 1865, 1250-1259.	4.1	20
113	The diferric-tyrosyl radical cluster of ribonucleotide reductase and cytosolic iron-sulfur clusters have distinct and similar biogenesis requirements. Journal of Biological Chemistry, 2017, 292, 11445-11451.	3.4	19
114	Biochemical Analyses of Human Ironâ€"Sulfur Protein Biogenesis and of Related Diseases. Methods in Enzymology, 2018, 599, 227-263.	1.0	16
115	N-terminal tyrosine of ISCU2 triggers [2Fe-2S] cluster synthesis by ISCU2 dimerization. Nature Communications, 2021, 12, 6902.	12.8	15
116	SnapShot: Eukaryotic Fe-S Protein Biogenesis. Cell Metabolism, 2014, 20, 384-384.e1.	16.2	13
117	Fe-S cluster coordination of the chromokinesin KIF4A alters its sub-cellular localization during mitosis. Journal of Cell Science, 2018, 131, .	2.0	11
118	Depletion of thiol reducing capacity impairs cytosolic but not mitochondrial iron-sulfur protein assembly machineries. Biochimica Et Biophysica Acta - Molecular Cell Research, 2019, 1866, 240-251.	4.1	10
119	ISCA1 mutation in a patient with infantile-onset leukodystrophy causes defects in mitochondrial [4Feâ€"4S] proteins. Human Molecular Genetics, 2018, 27, 3650-3650.	2.9	6
120	Defects in Mitochondrial Ironâ€"Sulfur Cluster Assembly Induce Cysteine S-Polythiolation on Ironâ€"Sulfur Apoproteins. Antioxidants and Redox Signaling, 2016, 25, 28-40.	5.4	4
121	Conformational changes in the yeast mitochondrial ABC transporter Atm1 during the transport cycle. Science Advances, 2021, 7, eabk2392.	10.3	4
122	Branched late-steps of the cytosolic iron-sulphur cluster assembly machinery of Trypanosoma brucei. PLoS Pathogens, 2018, 14, e1007326.	4.7	2
123	Do FeS clusters rule bacterial iron regulation?. Journal of Biological Chemistry, 2020, 295, 15464-15465.	3.4	1
124	Walter Neupert (1939â€"2019), a pioneer of mitochondrial biogenesis and morphology. EMBO Journal, 2019, 38, e103100.	7.8	0