Dieter Soll

List of Publications by Citations

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207 papers	11,095 citations	50 h-index	100 g-index
230 ext. papers	12,811 ext. citations	11 avg, IF	6.34 L-index

#	Paper	IF	Citations
207	Aminoacyl-tRNA synthesis. *Annual Review of Biochemistry*, **2000**, 69, 617-50	29.1	1050
206	Natural expansion of the genetic code. *Nature Chemical Biology*, **2007**, 3, 29-35	11.7	437
205	Codon Bias as a Means to Fine-Tune Gene Expression. *Molecular Cell*, **2015**, 59, 149-61	17.6	367
204	RNA-dependent conversion of phosphoserine forms selenocysteine in eukaryotes and archaea. *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 18923-7	11.5	359
203	The human SepSecS-tRNASec complex reveals the mechanism of selenocysteine formation. *Science*, **2009**, 325, 321-5	33.3	318
202	Expanding the genetic code of Escherichia coli with phosphoserine. *Science*, **2011**, 333, 1151-4	33.3	259
201	The RNA required in the first step of chlorophyll biosynthesis is a chloroplast glutamate tRNA. *Nature*, **1986**, 322, 281-4	50.4	256
200	Decameric SelA�RNA(Sec) ring structure reveals mechanism of bacterial selenocysteine formation. *Science*, **2013**, 340, 75-8	33.3	242
199	Protein biosynthesis in organelles requires misaminoacylation of tRNA. *Nature*, **1988**, 331, 187-90	50.4	218
198	Anticodon and acceptor stem nucleotides in tRNA(Gln) are major recognition elements for E. coli glutaminyl-tRNA synthetase. *Nature*, **1991**, 352, 258-60	50.4	191
197	Evolution of translation machinery in recoded bacteria enables multi-site incorporation of nonstandard amino acids. *Nature Biotechnology*, **2015**, 33, 1272-1279	44.5	172
196	A 2-thiouridine derivative in tRNAGlu is a positive determinant for aminoacylation by Escherichia coli glutamyl-tRNA synthetase. *Biochemistry*, **1993**, 32, 3836-41	3.2	165
195	Nanoarchaeum equitans creates functional tRNAs from separate genes for their 5R and 3Rhalves. *Nature*, **2005**, 433, 537-41	50.4	159
194	Structure of pyrrolysyl-tRNA synthetase, an archaeal enzyme for genetic code innovation. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 11268-73	11.5	156
193	Trans-editing of mischarged tRNAs. *Proceedings of the National Academy of Sciences of the United States of America*, **2003**, 100, 15422-7	11.5	156
192	An aminoacyl-tRNA synthetase that specifically activates pyrrolysine. *Proceedings of the National Academy of Sciences of the United States of America*, **2004**, 101, 12450-4	11.5	156
191	Severe oxidative stress induces protein mistranslation through impairment of an aminoacyl-tRNA synthetase editing site. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 4028-33	11.5	152

190	A chemical biology route to site-specific authentic protein modifications. *Science*, **2016**, 354, 623-626	33.3	151
189	Biosynthesis and Function of Modified Nucleosides165-205		150
188	Structural insights into the role of rRNA modifications in protein synthesis and ribosome assembly. *Nature Structural and Molecular Biology*, **2015**, 22, 342-344	17.6	148
187	tRNA-dependent asparagine formation. *Nature*, **1996**, 382, 589-90	50.4	145
186	Domain-specific recruitment of amide amino acids for protein synthesis. *Nature*, **2000**, 407, 106-10	50.4	140
185	Pyrrolysyl-tRNA synthetase-tRNA(Pyl) structure reveals the molecular basis of orthogonality. *Nature*, **2009**, 457, 1163-7	50.4	133
184	Continuous directed evolution of aminoacyl-tRNA synthetases. *Nature Chemical Biology*, **2017**, 13, 1253-1260	11.7	124
183	Titelbild: Umkodierung des genetischen Codes mit Selenocystein (Angew. Chem. 1/2014). *Angewandte Chemie*, **2014**, 126, 1-1	3.6	124
182	Aminoacyl-tRNA synthesis: divergent routes to a common goal. *Trends in Biochemical Sciences*, **1997** , 22, 39-42	10.3	120
181	Upgrading protein synthesis for synthetic biology. *Nature Chemical Biology*, **2013**, 9, 594-8	11.7	114
180	Mutations disrupting selenocysteine formation cause progressive cerebello-cerebral atrophy. *American Journal of Human Genetics*, **2010**, 87, 538-44	11	111
179	Modified Nucleosides and Codon Recognition+207-223		110
178	The RCN1-encoded A subunit of protein phosphatase 2A increases phosphatase activity in vivo. *Plant Journal*, **1999**, 20, 389-99	6.9	108
177	Regulation of HEMA1 expression by phytochrome and a plastid signal during de-etiolation in Arabidopsis thaliana. *Plant Journal*, **2001**, 25, 549-61	6.9	104
176	Pyrrolysine is not hardwired for cotranslational insertion at UAG codons. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 3141-6	11.5	93
175	Rewriting the Genetic Code. *Annual Review of Microbiology*, **2017**, 71, 557-577	17.5	90
174	Mutations in QARS, encoding glutaminyl-tRNA synthetase, cause progressive microcephaly, cerebral-cerebellar atrophy, and intractable seizures. *American Journal of Human Genetics*, **2014**, 94, 547-58	11	87
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172	Genetic code flexibility in microorganisms: novel mechanisms and impact on physiology. *Nature Reviews Microbiology*, **2015**, 13, 707-721	22.2	77
171	The selenocysteine-inserting opal suppressor serine tRNA from E. coli is highly unusual in structure and modification. *Nucleic Acids Research*, **1989**, 17, 7159-65	20.1	76
170	Polyspecific pyrrolysyl-tRNA synthetases from directed evolution. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 16724-9	11.5	75
169	Coevolution of an aminoacyl-tRNA synthetase with its tRNA substrates. *Proceedings of the National Academy of Sciences of the United States of America*, **2003**, 100, 13863-8	11.5	72
168	A facile strategy for selective incorporation of phosphoserine into histones. *Angewandte Chemie - International Edition*, **2013**, 52, 5771-5	16.4	71
167	In Vivo Biosynthesis of a Amino Acid-Containing Protein. *Journal of the American Chemical Society*, **2016**, 138, 5194-7	16.4	69
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165	A novel root gravitropism mutant of Arabidopsis thaliana exhibiting altered auxin physiology. *Physiologia Plantarum*, **1995**, 93, 790-798	4.6	63
164	Recoding the genetic code with selenocysteine. *Angewandte Chemie - International Edition*, **2014**, 53, 319-23	16.4	60
163	Rationally evolving tRNAPyl for efficient incorporation of noncanonical amino acids. *Nucleic Acids Research*, **2015**, 43, e156	20.1	59
162	Near-cognate suppression of amber, opal and quadruplet codons competes with aminoacyl-tRNAPyl for genetic code expansion. *FEBS Letters*, **2012**, 586, 3931-7	3.8	58
161	Upgrading aminoacyl-tRNA synthetases for genetic code expansion. *Current Opinion in Chemical Biology*, **2018**, 46, 115-122	9.7	53
160	Chemical Evolution of a Bacterial Proteome. *Angewandte Chemie - International Edition*, **2015**, 54, 10030-4	16.4	52
159	Primary, Secondary, and Tertiary Structures of tRNAs **2014**, 93-126		51
158	Insights into RNA binding by the anticancer drug cisplatin from the crystal structure of cisplatin-modified ribosome. *Nucleic Acids Research*, **2016**, 44, 4978-87	20.1	50
157	Emergence of the universal genetic code imprinted in an RNA record. *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 18095-100	11.5	50
156	Rewiring translation for elongation factor Tu-dependent selenocysteine incorporation. *Angewandte Chemie - International Edition*, **2013**, 52, 1441-5	16.4	49
155	A [3Fe-4S] cluster is required for tRNA thiolation in archaea and eukaryotes. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 12703-12708	11.5	48

154	Adding pyrrolysine to the Escherichia coli genetic code. *FEBS Letters*, **2007**, 581, 5282-8	3.8	48
153	Crystal structures reveal an elusive functional domain of pyrrolysyl-tRNA synthetase. *Nature Chemical Biology*, **2017**, 13, 1261-1266	11.7	47
152	Indolmycin resistance of Streptomyces coelicolor A3(2) by induced expression of one of its two tryptophanyl-tRNA synthetases. *Journal of Biological Chemistry*, **2002**, 277, 23882-7	5.4	47
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150	Expanding the genetic code of Escherichia coli with phosphotyrosine. *FEBS Letters*, **2016**, 590, 3040-7	3.8	44
149	Facile Recoding of Selenocysteine in Nature. *Angewandte Chemie - International Edition*, **2016**, 55, 5337-41	16.4	43
148	Structural insights into RNA-dependent eukaryal and archaeal selenocysteine formation. *Nucleic Acids Research*, **2008**, 36, 1187-99	20.1	43
147	Recognition of pyrrolysine tRNA by the Desulfitobacterium hafniense pyrrolysyl-tRNA synthetase. *Nucleic Acids Research*, **2007**, 35, 1270-8	20.1	43
146	Molecular analysis of three maize 22 kDa auxin-binding protein genes--transient promoter expression and regulatory regions. *Plant Journal*, **1993**, 4, 423-32	6.9	43
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144	Selenoprotein biosynthesis defect causes progressive encephalopathy with elevated lactate. *Neurology*, **2015**, 85, 306-15	6.5	42
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137	Archaeal aminoacyl-tRNA synthesis: diversity replaces dogma. *Genetics*, **1999**, 152, 1269-76	4	33

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135	Transfer RNA misidentification scrambles sense codon recoding. *ChemBioChem*, **2013**, 14, 1967-72	3.8	32
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131	Emergent rules for codon choice elucidated by editing rare arginine codons in Escherichia coli. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, E5588-97	11.5	30
130	A Facile Method for Producing Selenocysteine-Containing Proteins. *Angewandte Chemie - International Edition*, **2018**, 57, 7215-7219	16.4	29
129	Exploring the substrate range of wild-type aminoacyl-tRNA synthetases. *ChemBioChem*, **2014**, 15, 1805-1809	3.8	29
128	Substrate structural requirements of Schizosaccharomyces pombe RNase P. *FEBS Letters*, **1989**, 251, 84-8	3.8	29
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116	Methanococcus jannaschii prolyl-cysteinyl-tRNA synthetase possesses overlapping amino acid binding sites. *Biochemistry*, **2001**, 40, 46-52	3.2	24
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110	The genetic code - thawing the Ŗfrozen accidentŖ *Journal of Biosciences*, **2006**, 31, 459-63	2.3	23
109	The Human Genome Project: a paradigm for information management in the life sciences. *FASEB Journal*, **1991**, 5, 35-9	0.9	23
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106	tRNA Sequences and Variations in the Genetic Code225-250		21
105	The Selenocysteine-Inserting tRNA Species: Structure and Function529-544		21
104	Transcription of Eukaryotic tRNA Genes31-50		21
103	Initiation of Protein Synthesis with Non-Canonical Amino Acids In Vivo. *Angewandte Chemie - International Edition*, **2020**, 59, 3122-3126	16.4	21
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100	Splicing of tRNA Precursors79-92		19
99	Mechanistic insights into the slow peptide bond formation with D-amino acids in the ribosomal active site. *Nucleic Acids Research*, **2019**, 47, 2089-2100	20.1	18
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88	Small RNA Oligonucleotide Substrates for Specific Aminoacylations349-370		16
87	tRNA on the Ribosome: a Waggle Theory443-469		16
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