

David P Bartel

List of Publications by Year in descending order

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139
papers

164,622
citations

2427

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10734

138
g-index

156
all docs

156
docs citations

156
times ranked

103360
citing authors

#	ARTICLE	IF	CITATIONS
1	MicroRNAs. Cell, 2004, 116, 281-297.	28.9	32,446
2	MicroRNAs: Target Recognition and Regulatory Functions. Cell, 2009, 136, 215-233.	28.9	17,802
3	Conserved Seed Pairing, Often Flanked by Adenosines, Indicates that Thousands of Human Genes are MicroRNA Targets. Cell, 2005, 120, 15-20.	28.9	10,880
4	Most mammalian mRNAs are conserved targets of microRNAs. Genome Research, 2009, 19, 92-105.	5.5	7,226
5	Predicting effective microRNA target sites in mammalian mRNAs. ELife, 2015, 4, .	6.0	5,779
6	Prediction of Mammalian MicroRNA Targets. Cell, 2003, 115, 787-798.	28.9	4,682
7	Microarray analysis shows that some microRNAs downregulate large numbers of target mRNAs. Nature, 2005, 433, 769-773.	27.8	4,435
8	Mammalian microRNAs predominantly act to decrease target mRNA levels. Nature, 2010, 466, 835-840.	27.8	3,513
9	MicroRNA Targeting Specificity in Mammals: Determinants beyond Seed Pairing. Molecular Cell, 2007, 27, 91-105.	9.7	3,386
10	The impact of microRNAs on protein output. Nature, 2008, 455, 64-71.	27.8	3,270
11	An Abundant Class of Tiny RNAs with Probable Regulatory Roles in <i>Caenorhabditis elegans</i> . Science, 2001, 294, 858-862.	12.6	3,041
12	MicroRNAs Modulate Hematopoietic Lineage Differentiation. Science, 2004, 303, 83-86.	12.6	3,025
13	Metazoan MicroRNAs. Cell, 2018, 173, 20-51.	28.9	2,775
14	RNAi. Cell, 2000, 101, 25-33.	28.9	2,421
15	MicroRNAs AND THEIR REGULATORY ROLES IN PLANTS. Annual Review of Plant Biology, 2006, 57, 19-53.	18.7	2,418
16	lincRNAs: Genomics, Evolution, and Mechanisms. Cell, 2013, 154, 26-46.	28.9	2,337
17	Computational Identification of Plant MicroRNAs and Their Targets, Including a Stress-Induced miRNA. Molecular Cell, 2004, 14, 787-799.	9.7	2,097
18	Prediction of Plant MicroRNA Targets. Cell, 2002, 110, 513-520.	28.9	2,088

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19	MicroRNAs in plants. <i>Genes and Development</i> , 2002, 16, 1616-1626.	5.9	1,797
20	A uniform system for microRNA annotation. <i>Rna</i> , 2003, 9, 277-279.	3.5	1,620
21	MicroRNA-Directed Cleavage of <i>HOXB8</i> mRNA. <i>Science</i> , 2004, 304, 594-596.	12.6	1,596
22	Widespread Shortening of 3'UTRs by Alternative Cleavage and Polyadenylation Activates Oncogenes in Cancer Cells. <i>Cell</i> , 2009, 138, 673-684.	28.9	1,427
23	The Widespread Impact of Mammalian MicroRNAs on mRNA Repression and Evolution. <i>Science</i> , 2005, 310, 1817-1821.	12.6	1,382
24	Intronic microRNA precursors that bypass Drosha processing. <i>Nature</i> , 2007, 448, 83-86.	27.8	1,365
25	Expanded identification and characterization of mammalian circular RNAs. <i>Genome Biology</i> , 2014, 15, 409.	8.8	1,361
26	Connecting microRNA Genes to the Core Transcriptional Regulatory Circuitry of Embryonic Stem Cells. <i>Cell</i> , 2008, 134, 521-533.	28.9	1,332
27	Micromanagers of gene expression: the potentially widespread influence of metazoan microRNAs. <i>Nature Reviews Genetics</i> , 2004, 5, 396-400.	16.3	1,289
28	Microarray profiling of microRNAs reveals frequent coexpression with neighboring miRNAs and host genes. <i>Rna</i> , 2005, 11, 241-247.	3.5	1,253
29	MicroRNAs Regulate Brain Morphogenesis in Zebrafish. <i>Science</i> , 2005, 308, 833-838.	12.6	1,209
30	A diverse and evolutionarily fluid set of microRNAs in <i>Arabidopsis thaliana</i> . <i>Genes and Development</i> , 2006, 20, 3407-3425.	5.9	1,208
31	The microRNAs of <i>Caenorhabditis elegans</i> . <i>Genes and Development</i> , 2003, 17, 991-1008.	5.9	1,081
32	Conserved Function of lincRNAs in Vertebrate Embryonic Development despite Rapid Sequence Evolution. <i>Cell</i> , 2011, 147, 1537-1550.	28.9	1,072
33	Disrupting the Pairing Between let-7 and Hmga2 Enhances Oncogenic Transformation. <i>Science</i> , 2007, 315, 1576-1579.	12.6	1,060
34	Vertebrate MicroRNA Genes. <i>Science</i> , 2003, 299, 1540-1540.	12.6	1,035
35	Passenger-Strand Cleavage Facilitates Assembly of siRNA into Ago2-Containing RNAi Enzyme Complexes. <i>Cell</i> , 2005, 123, 607-620.	28.9	991
36	Large-Scale Sequencing Reveals 21U-RNAs and Additional MicroRNAs and Endogenous siRNAs in <i>C. elegans</i> . <i>Cell</i> , 2006, 127, 1193-1207.	28.9	892

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37	The action of ARGONAUTE1 in the miRNA pathway and its regulation by the miRNA pathway are crucial for plant development. <i>Genes and Development</i> , 2004, 18, 1187-1197.	5.9	868
38	A biochemical framework for RNA silencing in plants. <i>Genes and Development</i> , 2003, 17, 49-63.	5.9	832
39	MicroRNA-Directed Regulation of Arabidopsis AUXIN RESPONSE FACTOR17 Is Essential for Proper Development and Modulates Expression of Early Auxin Response Genes. <i>Plant Cell</i> , 2005, 17, 1360-1375.	6.6	805
40	Weak seed-pairing stability and high target-site abundance decrease the proficiency of Isy-6 and other microRNAs. <i>Nature Structural and Molecular Biology</i> , 2011, 18, 1139-1146.	8.2	803
41	Endogenous siRNA and miRNA Targets Identified by Sequencing of the Arabidopsis Degradome. <i>Current Biology</i> , 2008, 18, 758-762.	3.9	749
42	Endogenous trans-Acting siRNAs Regulate the Accumulation of Arabidopsis mRNAs. <i>Molecular Cell</i> , 2004, 16, 69-79.	9.7	742
43	Mouse ES cells express endogenous shRNAs, siRNAs, and other Microprocessor-independent, Dicer-dependent small RNAs. <i>Genes and Development</i> , 2008, 22, 2773-2785.	5.9	739
44	Mammalian microRNAs: experimental evaluation of novel and previously annotated genes. <i>Genes and Development</i> , 2010, 24, 992-1009.	5.9	706
45	RNA-Catalyzed RNA Polymerization: Accurate and General RNA-Templated Primer Extension. <i>Science</i> , 2001, 292, 1319-1325.	12.6	680
46	The biochemical basis of microRNA targeting efficacy. <i>Science</i> , 2019, 366, .	12.6	631
47	MicroRNA control of PHABULOSA in leaf development: importance of pairing to the microRNA 5' end region. <i>EMBO Journal</i> , 2004, 23, 3356-3364.	7.8	630
48	Early origins and evolution of microRNAs and Piwi-interacting RNAs in animals. <i>Nature</i> , 2008, 455, 1193-1197.	27.8	630
49	MicroRNA Regulation of NAC-Domain Targets Is Required for Proper Formation and Separation of Adjacent Embryonic, Vegetative, and Floral Organs. <i>Current Biology</i> , 2004, 14, 1035-1046.	3.9	617
50	A Two-Hit Trigger for siRNA Biogenesis in Plants. <i>Cell</i> , 2006, 127, 565-577.	28.9	599
51	Assessing the ceRNA Hypothesis with Quantitative Measurements of miRNA and Target Abundance. <i>Molecular Cell</i> , 2014, 54, 766-776.	9.7	579
52	Discovery of functional elements in 12 Drosophila genomes using evolutionary signatures. <i>Nature</i> , 2007, 450, 219-232.	27.8	573
53	Principles of Long Noncoding RNA Evolution Derived from Direct Comparison of Transcriptomes in 17 Species. <i>Cell Reports</i> , 2015, 11, 1110-1122.	6.4	565
54	miR-150, a microRNA expressed in mature B and T cells, blocks early B cell development when expressed prematurely. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 7080-7085.	7.1	562

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55	Partially Redundant Functions of Arabidopsis DICER-like Enzymes and a Role for DCL4 in Producing trans-Acting siRNAs. <i>Current Biology</i> , 2005, 15, 1494-1500.	3.9	545
56	Poly(A)-tail profiling reveals an embryonic switch in translational control. <i>Nature</i> , 2014, 508, 66-71.	27.8	542
57	Evolution, biogenesis, expression, and target predictions of a substantially expanded set of <i>Drosophila</i> microRNAs. <i>Genome Research</i> , 2007, 17, 1850-1864.	5.5	540
58	Expanding the MicroRNA Targeting Code: Functional Sites with Centered Pairing. <i>Molecular Cell</i> , 2010, 38, 789-802.	9.7	534
59	Antiquity of MicroRNAs and Their Targets in Land Plants. <i>Plant Cell</i> , 2005, 17, 1658-1673.	6.6	522
60	A Network of Noncoding Regulatory RNAs Acts in the Mammalian Brain. <i>Cell</i> , 2018, 174, 350-362.e17.	28.9	485
61	RNAi in Budding Yeast. <i>Science</i> , 2009, 326, 544-550.	12.6	480
62	The let-7 MicroRNA Family Members mir-48, mir-84, and mir-241 Function Together to Regulate Developmental Timing in <i>Caenorhabditis elegans</i> . <i>Developmental Cell</i> , 2005, 9, 403-414.	7.0	456
63	Formation, regulation and evolution of <i>Caenorhabditis elegans</i> 3' UTRs. <i>Nature</i> , 2011, 469, 97-101.	27.8	432
64	mRNA Destabilization Is the Dominant Effect of Mammalian MicroRNAs by the Time Substantial Repression Ensues. <i>Molecular Cell</i> , 2014, 56, 104-115.	9.7	424
65	Small RNAs Correspond to Centromere Heterochromatic Repeats. <i>Science</i> , 2002, 297, 1831-1831.	12.6	423
66	Most <i>Caenorhabditis elegans</i> microRNAs Are Individually Not Essential for Development or Viability. <i>PLoS Genetics</i> , 2007, 3, e215.	3.5	412
67	MicroRNAs: At the Root of Plant Development?. <i>Plant Physiology</i> , 2003, 132, 709-717.	4.8	389
68	Common Functions for Diverse Small RNAs of Land Plants. <i>Plant Cell</i> , 2007, 19, 1750-1769.	6.6	387
69	RNA G-quadruplexes are globally unfolded in eukaryotic cells and depleted in bacteria. <i>Science</i> , 2016, 353, .	12.6	375
70	Beyond Secondary Structure: Primary-Sequence Determinants License Pri-miRNA Hairpins for Processing. <i>Cell</i> , 2013, 152, 844-858.	28.9	373
71	The microRNA miR-196 acts upstream of Hoxb8 and Shh in limb development. <i>Nature</i> , 2005, 438, 671-674.	27.8	365
72	One Sequence, Two Ribozymes: Implications for the Emergence of New Ribozyme Folds. <i>Science</i> , 2000, 289, 448-452.	12.6	340

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73	AGO1 Homeostasis Entails Coexpression of MIR168 and AGO1 and Preferential Stabilization of miR168 by AGO1. <i>Molecular Cell</i> , 2006, 22, 129-136.	9.7	330
74	Improved Ribosome-Footprint and mRNA Measurements Provide Insights into Dynamics and Regulation of Yeast Translation. <i>Cell Reports</i> , 2016, 14, 1787-1799.	6.4	330
75	MicroRNAs prevent precocious gene expression and enable pattern formation during plant embryogenesis. <i>Genes and Development</i> , 2010, 24, 2678-2692.	5.9	322
76	Structure of yeast Argonaute with guide RNA. <i>Nature</i> , 2012, 486, 368-374.	27.8	314
77	Extensive alternative polyadenylation during zebrafish development. <i>Genome Research</i> , 2012, 22, 2054-2066.	5.5	305
78	Impact of MicroRNA Levels, Target-Site Complementarity, and Cooperativity on Competing Endogenous RNA-Regulated Gene Expression. <i>Molecular Cell</i> , 2016, 64, 565-579.	9.7	300
79	RNA-catalysed nucleotide synthesis. <i>Nature</i> , 1998, 395, 260-263.	27.8	280
80	Global Analyses of the Effect of Different Cellular Contexts on MicroRNA Targeting. <i>Molecular Cell</i> , 2014, 53, 1031-1043.	9.7	276
81	RNA-catalysed RNA polymerization using nucleoside triphosphates. <i>Nature</i> , 1996, 382, 373-376.	27.8	242
82	A single Hox locus in <i>Drosophila</i> produces functional microRNAs from opposite DNA strands. <i>Genes and Development</i> , 2008, 22, 8-13.	5.9	205
83	Compatibility with Killer Explains the Rise of RNAi-Deficient Fungi. <i>Science</i> , 2011, 333, 1592-1592.	12.6	194
84	5' UTR-isoform choice has limited influence on the stability and translational efficiency of most mRNAs in mouse fibroblasts. <i>Genome Research</i> , 2013, 23, 2078-2090.	5.5	186
85	TRAMP-mediated RNA surveillance prevents spurious entry of RNAs into the <i>Schizosaccharomyces pombe</i> siRNA pathway. <i>Nature Structural and Molecular Biology</i> , 2008, 15, 1015-1023.	8.2	173
86	Stalled Spliceosomes Are a Signal for RNAi-Mediated Genome Defense. <i>Cell</i> , 2013, 152, 957-968.	28.9	173
87	The Menu of Features that Define Primary MicroRNAs and Enable De Novo Design of MicroRNA Genes. <i>Molecular Cell</i> , 2015, 60, 131-145.	9.7	172
88	MicroRNA Destabilization Enables Dynamic Regulation of the miR-16 Family in Response to Cell-Cycle Changes. <i>Molecular Cell</i> , 2011, 43, 993-1004.	9.7	171
89	MicroRNAs in the Hox network: an apparent link to posterior prevalence. <i>Nature Reviews Genetics</i> , 2008, 9, 789-796.	16.3	167
90	Patterns of flanking sequence conservation and a characteristic upstream motif for microRNA gene identification. <i>Rna</i> , 2004, 10, 1309-1322.	3.5	160

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91	The ZSWIM8 ubiquitin ligase mediates target-directed microRNA degradation. <i>Science</i> , 2020, 370, .	12.6	138
92	mRNA poly(A)-tail changes specified by deadenylation broadly reshape translation in <i>Drosophila</i> oocytes and early embryos. <i>ELife</i> , 2016, 5, .	6.0	132
93	The hammerhead cleavage reaction in monovalent cations. <i>Rna</i> , 2001, 7, 546-552.	3.5	127
94	The secondary structure and sequence optimization of an RNA ligase ribozyme. <i>Nucleic Acids Research</i> , 1995, 23, 3231-3238.	14.5	123
95	Unusually effective microRNA targeting within repeat-rich coding regions of mammalian mRNAs. <i>Genome Research</i> , 2011, 21, 1395-1403.	5.5	123
96	Widespread Influence of 3' End Structures on Mammalian mRNA Processing and Stability. <i>Cell</i> , 2017, 169, 905-917.e11.	28.9	123
97	Crystal Structure of the Catalytic Core of an RNA-Polymerase Ribozyme. <i>Science</i> , 2009, 326, 1271-1275.	12.6	120
98	Excised linear introns regulate growth in yeast. <i>Nature</i> , 2019, 565, 606-611.	27.8	118
99	Widespread Changes in the Posttranscriptional Landscape at the <i>Drosophila</i> Oocyte-to-Embryo Transition. <i>Cell Reports</i> , 2014, 7, 1495-1508.	6.4	114
100	Genetic dissection of the miR-200/Zeb1 axis reveals its importance in tumor differentiation and invasion. <i>Nature Communications</i> , 2018, 9, 4671.	12.8	111
101	The Dynamics of Cytoplasmic mRNA Metabolism. <i>Molecular Cell</i> , 2020, 77, 786-799.e10.	9.7	106
102	Coherent but overlapping expression of microRNAs and their targets during vertebrate development. <i>Genes and Development</i> , 2009, 23, 466-481.	5.9	98
103	Regulatory Mutations of mir-48, a <i>C. elegans</i> let-7 Family MicroRNA, Cause Developmental Timing Defects. <i>Developmental Cell</i> , 2005, 9, 415-422.	7.0	92
104	kpLogo: positional k-mer analysis reveals hidden specificity in biological sequences. <i>Nucleic Acids Research</i> , 2017, 45, W534-W538.	14.5	91
105	Predicting microRNA targeting efficacy in <i>Drosophila</i> . <i>Genome Biology</i> , 2018, 19, 152.	8.8	91
106	Global analyses of the dynamics of mammalian microRNA metabolism. <i>Genome Research</i> , 2019, 29, 1777-1790.	5.5	89
107	New CRISPR Mutagenesis Strategies Reveal Variation in Repair Mechanisms among Fungi. <i>MSphere</i> , 2018, 3, .	2.9	87
108	The PUMILIO~RNA Interaction: A Single RNA-Binding Domain Monomer Recognizes a Bipartite Target Sequence. <i>Biochemistry</i> , 1999, 38, 596-604.	2.5	86

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109	In ovo application of antagomiRs indicates a role for miR-196 in patterning the chick axial skeleton through Hox gene regulation. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 18610-18615.	7.1	80
110	A portable RNA sequence whose recognition by a synthetic antibody facilitates structural determination. Nature Structural and Molecular Biology, 2011, 18, 100-106.	8.2	75
111	Sequencing the cap-snatching repertoire of H1N1 influenza provides insight into the mechanism of viral transcription initiation. Nucleic Acids Research, 2015, 43, 5052-5064.	14.5	73
112	Reverse transcriptase reads through a 5' linkage and a 2'-thiophosphate in a template. Nucleic Acids Research, 1995, 23, 2811-2814.	14.5	70
113	The molecular basis of coupling between poly(A)-tail length and translational efficiency. ELife, 2021, 10, .	6.0	62
114	Allelic imbalance sequencing reveals that single-nucleotide polymorphisms frequently alter microRNA-directed repression. Nature Biotechnology, 2009, 27, 472-477.	17.5	60
115	Independent regulation of vertebral number and vertebral identity by microRNA-196 paralogs. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E4884-93.	7.1	60
116	The Inside-Out Mechanism of Dicers from Budding Yeasts. Cell, 2011, 146, 262-276.	28.9	59
117	Processivity of Ribozyme-Catalyzed RNA Polymerization. Biochemistry, 2003, 42, 8748-8755.	2.5	56
118	Kinetic Framework for Ligation by an Efficient RNA Ligase Ribozyme. Biochemistry, 2000, 39, 3115-3123.	2.5	55
119	The biochemical basis for the cooperative action of microRNAs. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 17764-17774.	7.1	53
120	New ligase-derived RNA polymerase ribozymes. Rna, 2005, 11, 1173-1180.	3.5	52
121	Early genome activation in <i>Drosophila</i> is extensive with an initial tendency for aborted transcripts and retained introns. Genome Research, 2019, 29, 1188-1197.	5.5	52
122	MicroRNA Clustering Assists Processing of Suboptimal MicroRNA Hairpins through the Action of the ERH Protein. Molecular Cell, 2020, 78, 289-302.e6.	9.7	48
123	<i>Candida albicans</i> Dicer (CaDcr1) is required for efficient ribosomal and spliceosomal RNA maturation. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 523-528.	7.1	47
124	The influence of microRNAs and poly(A) tail length on endogenous mRNA-protein complexes. Genome Biology, 2017, 18, 211.	8.8	46
125	The three-dimensional architecture of the class I ligase ribozyme. Rna, 2004, 10, 176-184.	3.5	43
126	The structural basis of RNA-catalyzed RNA polymerization. Nature Structural and Molecular Biology, 2011, 18, 1036-1042.	8.2	41

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127	Metal Ion Requirements for Structure and Catalysis of an RNA Ligase Ribozyme. <i>Biochemistry</i> , 2002, 41, 8103-8112.	2.5	38
128	A Seed Mismatch Enhances Argonaute2-Catalyzed Cleavage and Partially Rescues Severely Impaired Cleavage Found in Fish. <i>Molecular Cell</i> , 2017, 68, 1095-1107.e5.	9.7	35
129	MicroRNAs Cause Accelerated Decay of Short-Tailed Target mRNAs. <i>Molecular Cell</i> , 2020, 77, 775-785.e8.	9.7	33
130	Degradation of host translational machinery drives tRNA acquisition in viruses. <i>Cell Systems</i> , 2021, 12, 771-779.e5.	6.2	32
131	MicroRNA 3' compensatory pairing occurs through two binding modes, with affinity shaped by nucleotide identity and position. <i>ELife</i> , 2022, 11, .	6.0	26
132	Substrate 2'-Hydroxyl Groups Required for Ribozyme-Catalyzed Polymerization. <i>Chemistry and Biology</i> , 2003, 10, 799-806.	6.0	25
133	A class I ligase ribozyme with reduced Mg ²⁺ dependence: Selection, sequence analysis, and identification of functional tertiary interactions. <i>Rna</i> , 2009, 15, 2129-2146.	3.5	18
134	Recognition of Nucleoside Triphosphates during RNA-Catalyzed Primer Extension. <i>Biochemistry</i> , 2000, 39, 15556-15562.	2.5	17
135	Ago2 protects <i>Drosophila</i> siRNAs and microRNAs from target-directed degradation, even in the absence of 2'-O-methylation. <i>Rna</i> , 2021, 27, 710-724.	3.5	17
136	A ribozyme selected from variants of U6 snRNA promotes 2',5'-branch formation. <i>Rna</i> , 2001, 7, 29-43.	3.5	16
137	Xrn1p acts at multiple steps in the budding-yeast RNAi pathway to enhance the efficiency of silencing. <i>Nucleic Acids Research</i> , 2020, 48, 7404-7420.	14.5	3
138	The interplay between translational efficiency, poly(A) tails, microRNAs, and neuronal activation. <i>Rna</i> , 2022, 28, 808-831.	3.5	2
139	Most <i>Caenorhabditis elegans</i> microRNAs are individually not essential for development or viability. <i>PLoS Genetics</i> , 2005, preprint, e215.	3.5	0