Frank Lyko

List of Publications by Year
in descending order

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114 papers	14,005 citations	25034 57 h-index	24982 109 g-index
121 all docs	121 docs citations	121 times ranked	15451 citing authors

#	Article	IF	Citations
1	The DNA methyltransferase family: a versatile toolkit for epigenetic regulation. Nature Reviews Genetics, 2018, 19, 81-92.	16.3	919
2	Modes of action of the DNA methyltransferase inhibitors azacytidine and decitabine. International Journal of Cancer, 2008, 123, 8-13.	5.1	761
3	The Honey Bee Epigenomes: Differential Methylation of Brain DNA in Queens and Workers. PLoS Biology, 2010, 8, e1000506.	5.6	636
4	RNA methylation by Dnmt2 protects transfer RNAs against stress-induced cleavage. Genes and Development, 2010, 24, 1590-1595.	5.9	604
5	Epigenetic Reactivation of Tumor Suppressor Genes by a Novel Small-Molecule Inhibitor of Human DNA Methyltransferases. Cancer Research, 2005, 65, 6305-6311.	0.9	491
6	RNA cytosine methylation by Dnmt2 and NSun2 promotes tRNA stability and protein synthesis. Nature Structural and Molecular Biology, 2012, 19, 900-905.	8.2	488
7	DNA Methyltransferase Inhibitors and the Development of Epigenetic Cancer Therapies. Journal of the National Cancer Institute, 2005, 97, 1498-1506.	6.3	446
8	DNA methylation in Drosophila melanogaster. Nature, 2000, 408, 538-540.	27.8	422
9	Combined Deficiency of Tet1 and Tet2 Causes Epigenetic Abnormalities but Is Compatible with Postnatal Development. Developmental Cell, 2013, 24, 310-323.	7.0	379
10	Functional Diversity of DNA Methyltransferase Inhibitors in Human Cancer Cell Lines. Cancer Research, 2006, 66, 2794-2800.	0.9	360
11	RNA cytosine methylation analysis by bisulfite sequencing. Nucleic Acids Research, 2008, 37, e12-e12.	14.5	304
12	Dnmt2 mediates intergenerational transmission of paternally acquired metabolic disorders through sperm small non-coding RNAs. Nature Cell Biology, 2018, 20, 535-540.	10.3	302
13	5-methylcytosine in RNA: detection, enzymatic formation and biological functions. Nucleic Acids Research, 2010, 38, 1415-1430.	14.5	300
14	Loss of Tet Enzymes Compromises Proper Differentiation of Embryonic Stem Cells. Developmental Cell, 2014, 29, 102-111.	7.0	274
15	LUMA (LUminometric Methylation Assay)â€"A high throughput method to the analysis of genomic DNA methylation. Experimental Cell Research, 2006, 312, 1989-1995.	2.6	261
16	Single-cell transcriptomes of the human skin reveal age-related loss of fibroblast priming. Communications Biology, 2020, 3, 188.	4.4	239
17	Aging and Chronic Sun Exposure Cause Distinct Epigenetic Changes in Human Skin. PLoS Genetics, 2010, 6, e1000971.	3.5	217
18	A Dnmt2-like protein mediates DNA methylation in Drosophila. Development (Cambridge), 2003, 130, 5083-5090.	2.5	216

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19	Dnmt2-dependent methylomes lack defined DNA methylation patterns. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 8627-8631.	7.1	204
20	Insects as innovative models for functional studies of DNA methylation. Trends in Genetics, 2011, 27, 127-131.	6.7	188
21	RNAâ€“Mediated Epigenetic Heredity Requires the Cytosine Methyltransferase Dnmt2. PLoS Genetics, 2013, 9, e1003498.	3.5	173
22	Azacytidine Inhibits RNA Methylation at DNMT2 Target Sites in Human Cancer Cell Lines. Cancer Research, 2009, 69, 8127-8132.	0.9	170
23	Clonal genome evolution and rapid invasive spread of the marbled crayfish. Nature Ecology and Evolution, 2018, 2, 567-573.	7.8	168
24	Novel and selective DNA methyltransferase inhibitors: Docking-based virtual screening and experimental evaluation. Bioorganic and Medicinal Chemistry, 2010, 18, 822-829.	3.0	165
25	Mechanism and biological role of Dnmt2 in Nucleic Acid Methylation. RNA Biology, 2017, 14, 1108-1123.	3.1	156
26	Nanaomycin A Selectively Inhibits DNMT3B and Reactivates Silenced Tumor Suppressor Genes in Human Cancer Cells. Molecular Cancer Therapeutics, 2010, 9, 3015-3023.	4.1	154
27	The <scp>tRNA</scp> methyltransferase Dnmt2 is required forÂaccurate polypeptide synthesis duringÂhaematopoiesis. EMBO Journal, 2015, 34, 2350-2362.	7.8	154
28	Solving the Dnmt2 enigma. Chromosoma, 2010, 119, 35-40.	2.2	153
29	DNA methyltransferase inhibitors: old and new drugs for an epigenetic cancer therapy. Trends in Pharmacological Sciences, 2004, 25, 551-554.	8.7	144
30	The Mouse Cytosine-5 RNA Methyltransferase NSun2 Is a Component of the Chromatoid Body and Required for Testis Differentiation. Molecular and Cellular Biology, 2013, 33, 1561-1570.	2.3	137
31	Statistically robust methylation calling for whole-transcriptome bisulfite sequencing reveals distinct methylation patterns for mouse RNAs. Genome Research, 2017, 27, 1589-1596.	5.5	137
32	Discovery of Two Novel, Small-Molecule Inhibitors of DNA Methylation. Journal of Medicinal Chemistry, 2006, 49, 678-683.	6.4	134
33	Queuosineâ€modified tRNAs confer nutritional control of protein translation. EMBO Journal, 2018, 37, .	7.8	134
34	Natural products as DNA methyltransferase inhibitors: a computer-aided discovery approach. Molecular Diversity, 2011, 15, 293-304.	3.9	132
35	Azacytidine and Decitabine Induce Gene-Specific and Non-Random DNA Demethylation in Human Cancer Cell Lines. PLoS ONE, 2011, 6, e17388.	2.5	123
36	Capillary electrophoretic analysis of genomic DNA methylation levels. Nucleic Acids Research, 2003, 31, 2e-2.	14.5	121

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37	The RNA Methyltransferase Dnmt2 Is Required for Efficient Dicer-2-Dependent siRNA Pathway Activity in Drosophila. Cell Reports, 2013, 4, 931-937.	6.4	114
38	DNA Methyltransferase Inhibitors for Cancer Therapy. Cancer Journal (Sudbury, Mass), 2007, 13, 17-22.	2.0	110
39	Silencing of retrotransposons in Dictyostelium by DNA methylation and RNAi. Nucleic Acids Research, 2005, 33, 6405-6417.	14.5	109
40	Molecular Modeling and Molecular Dynamics Studies of Hydralazine with Human DNA Methyltransferaseâ€...1. ChemMedChem, 2009, 4, 792-799.	3.2	104
41	Characterization of DNA Demethylation Effects Induced by 5-Aza-2â€²-Deoxycytidine in Patients with Myelodysplastic Syndrome. Cancer Research, 2005, 65, 7086-7090.	0.9	103
42	Tissue-Specific Elevated Genomic Cytosine Methylation Levels Are Associated with an Overgrowth Phenotype of Bovine Fetuses Derived by In Vitro Techniques1. Biology of Reproduction, 2004, 71, 217-223.	2.7	100
43	Two substrates are better than one: dual specificities for Dnmt2 methyltransferases. Trends in Biochemical Sciences, 2006, 31, 306-308.	7.5	100
44	The microbiota programs DNA methylation to control intestinal homeostasis and inflammation. Nature Microbiology, 2020, 5, 610-619.	13.3	95
45	Constrained Analogues of Procaine as Novel Small Molecule Inhibitors of DNA Methyltransferase-1. Journal of Medicinal Chemistry, 2008, 51, 2321-2325.	6.4	93
46	Azacytidine causes complex DNA methylation responses in myeloid leukemia. Molecular Cancer Therapeutics, 2008, 7, 2998-3005.	4.1	92
47	Chronic Inflammation Induces a Novel Epigenetic Program That Is Conserved in Intestinal Adenomas and in Colorectal Cancer. Cancer Research, 2015, 75, 2120-2130.	0.9	91
48	Efficient RNA virus control in Drosophila requires the RNA methyltransferase Dnmt2. EMBO Reports, 2013, 14, 269-275.	4.5	89
49	Reactivation of Epigenetically Silenced Genes by DNA Methyltransferase Inhibitors: Basic Concepts and Clinical Applications. Epigenetics, 2006, 1, 8-14.	2.7	83
50	Delivery of 5-Azacytidine to Human Cancer Cells by Elaidic Acid Esterification Increases Therapeutic Drug Efficacy. Molecular Cancer Therapeutics, 2010, 9, 1256-1264.	4.1	77
51	DNA (de)methylation in embryonic stem cells controls CTCF-dependent chromatin boundaries. Genome Research, 2019, 29, 750-761.	5.5	76
52	Epigenetic Regulation by Heritable RNA. PLoS Genetics, 2014, 10, e1004296.	3.5	74
53	Dynamic modulation of Dnmt2-dependent tRNA methylation by the micronutrient queuine. Nucleic Acids Research, 2015, 43, 10952-10962.	14.5	74
54	Aging is associated with highly defined epigenetic changes in the human epidermis. Epigenetics and Chromatin, 2013, 6, 36.	3.9	72

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55	Characterization of genome methylation patterns in the desert locust Schistocerca gregaria. Journal of Experimental Biology, 2013, 216, 1423-9.	1.7	71
56	The marbled crayfish as a paradigm for saltational speciation by autopolyploidy and parthenogenesis in animals. Biology Open, 2015, 4, 1583-1594.	1.2	70
57	Genome recoding by tRNA modifications. Open Biology, 2016, 6, 160287.	3.6	70
58	Epigenetic cancer therapy: Proof of concept and remaining challenges. BioEssays, 2010, 32, 949-957.	2.5	67
59	Cell-of-Origin DNA Methylation Signatures Are Maintained during Colorectal Carcinogenesis. Cell Reports, 2018, 23, 3407-3418.	6.4	66
60	Reduced <scp>DNA</scp> methylation patterning and transcriptional connectivity define human skin aging. Aging Cell, 2016, 15, 563-571.	6.7	65
61	Methylation profiling identifies two subclasses of squamous cell carcinoma related to distinct cells of origin. Nature Communications, 2018, 9, 577.	12.8	64
62	Lack of evidence for DNA methylation of Invader4 retroelements in Drosophila and implications for Dnmt2-mediated epigenetic regulation. Nature Genetics, 2010, 42, 920-921.	21.4	59
63	De Novo assembly and annotation of the freshwater crayfish Astacus astacus transcriptome. Marine Genomics, 2016, 28, 7-10.	1.1	59
64	The marbled crayfish (Decapoda: Cambaridae) represents an independent new species. Zootaxa, 2017, 4363, 544-552.	0.5	57
65	Human concentrative nucleoside transporter 1-mediated uptake of 5-azacytidine enhances DNA demethylation. Molecular Cancer Therapeutics, 2009, 8, 225-231.	4.1	56
66	Mutations in Cytosine-5 tRNA Methyltransferases Impact Mobile Element Expression and Genome Stability at Specific DNA Repeats. Cell Reports, 2018, 22, 1861-1874.	6.4	56
67	The methylome of the marbled crayfish links gene body methylation to stable expression of poorly accessible genes. Epigenetics and Chromatin, 2018, 11, 57.	3.9	56
68	Establishment and functional validation of a structural homology model for human DNA methyltransferase 1. Biochemical and Biophysical Research Communications, 2003, 306, 558-563.	2.1	54
69	Tet1 and Tet2 Protect DNA Methylation Canyons against Hypermethylation. Molecular and Cellular Biology, 2016, 36, 452-461.	2.3	54
70	Use of DNAzymes for site-specific analysis of ribonucleotide modifications. Rna, 2008, 14, 180-187.	3.5	53
71	Queuine links translational control in eukaryotes to a micronutrient from bacteria. Nucleic Acids Research, 2019, 47, 3711-3727.	14.5	53
72	Dnmt1 has an essential function despite the absence of CpG DNA methylation in the red flour beetle Tribolium castaneum. Scientific Reports, 2018, 8, 16462.	3.3	50

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73	Quantitative analysis of DNA methylation in chronic lymphocytic leukemia patients. Electrophoresis, 2004, 25, 1530-1535.	2.4	48
74	The Drosophila MBD2/3 protein mediates interactions between the MI-2 chromatin complex and CpT/A-methylated DNA. Development (Cambridge), 2004, 131, 6033-6039.	2.5	46
75	Comparative analysis of DNA methylation patterns in transgenic Drosophila overexpressing mouse DNA methyltransferases. Biochemical Journal, 2004, 378, 763-768.	3.7	46
76	The Role of Human Equilibrative Nucleoside Transporter 1 on the Cellular Transport of the DNA Methyltransferase Inhibitors 5-Azacytidine and CP-4200 in Human Leukemia Cells. Molecular Pharmacology, 2013, 84, 438-450.	2.3	45
77	Ecological plasticity and commercial impact of invasive marbled crayfish populations in Madagascar. BMC Ecology, 2019, 19, 8.	3.0	44
78	Dnmt3a Protects Active Chromosome Domains against Cancer-Associated Hypomethylation. PLoS Genetics, 2012, 8, e1003146.	3.5	43
79	Synthesis and in Vitro Evaluation of Biotinylated RG108:Â A High Affinity Compound for Studying Binding Interactions with Human DNA Methyltransferases. Bioconjugate Chemistry, 2006, 17, 261-266.	3.6	42
80	Nucleoside Drugs Induce Cellular Differentiation by Caspase-Dependent Degradation of Stem Cell Factors. PLoS ONE, 2010, 5, e10726.	2.5	38
81	The importance of non-histone protein methylation in cancer therapy. Nature Reviews Molecular Cell Biology, 2019, 20, 569-570.	37.0	37
82	The Drosophila Cytosine-5 Methyltransferase Dnmt2 Is Associated with the Nuclear Matrix and Can Access DNA during Mitosis. PLoS ONE, 2008, 3, e1414.	2.5	36
83	Array-based analysis of genomic DNA methylation patterns of the tumour suppressor gene p16INK4A promoter in colon carcinoma cell lines. Nucleic Acids Research, 2005, 33, e73-e73.	14.5	34
84	DNA methylation with a sting: An active DNA methylation system in the honeybee. BioEssays, 2007, 29, 208-211.	2.5	34
85	Limited antibody specificity compromises epitranscriptomic analyses. Nature Communications, 2019, 10, 5669.	12.8	34
86	DNA Hypermethylation in Drosophila melanogaster Causes Irregular Chromosome Condensation and Dysregulation of Epigenetic Histone Modifications. Molecular and Cellular Biology, 2003, 23, 2577-2586.	2.3	32
87	Quantitative determination of decitabine incorporation into DNA and its effect on mutation rates in human cancer cells. Nucleic Acids Research, 2014, 42, e152-e152.	14.5	26
88	A chicken DNA methylation clock for the prediction of broiler health. Communications Biology, 2021, 4, 76.	4.4	26
89	Cooperative interactions between epigenetic modifications and their function in the regulation of chromosome architecture. BioEssays, 2003, 25, 792-797.	2.5	24
90	Translational adaptation to heat stress is mediated by RNA 5â€methylcytosine in Caenorhabditis elegans. EMBO Journal, 2021, 40, e105496.	7.8	24

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91	Stage-specific chromosomal association of Drosophila dMBD2/3 during genome activation. Chromosoma, 2002, 111, 13-21.	2.2	23
92	Rapid Epigenetic Adaptation in Animals and Its Role in Invasiveness. Integrative and Comparative Biology, 2020, 60, 267-274.	2.0	22
93	Vectorial Transport of Nucleoside Analogs from the Apical to the Basolateral Membrane in Double-Transfected Cells Expressing the Human Concentrative Nucleoside Transporter hCNT3 and the Export Pump ABCC4. Drug Metabolism and Disposition, 2010, 38, 1054-1063.	3.3	21
94	Comprehensive DNA methylation analysis of the Aedes aegypti genome. Scientific Reports, 2016, 6, 36444.	3.3	21
95	Perceived socio-economic impacts of the marbled crayfish invasion in Madagascar. PLoS ONE, 2020, 15, e0231773.	2.5	21
96	Genome analysis of the monoclonal marbled crayfish reveals genetic separation over a short evolutionary timescale. Communications Biology, 2021, 4, 74.	4.4	20
97	BisAMP: A web-based pipeline for targeted RNA cytosine-5 methylation analysis. Methods, 2019, 156, 121-127.	3.8	14
98	Single-Cell RNA Profiling of Human Skin Reveals Age-Related Loss of Dermal Sheath Cells and Their Contribution to a Juvenile Phenotype. Frontiers in Genetics, 2021, 12, 797747.	2.3	14
99	Division of labour: tRNA methylation by the NSun2 tRNA methyltransferases Trm4a and Trm4b in fission yeast. RNA Biology, 2019, 16, 249-256.	3.1	13
100	Location-Dependent DNA Methylation Signatures in a Clonal Invasive Crayfish. Frontiers in Cell and Developmental Biology, 2021, 9, 794506.	3.7	12
101	Genetic and epigenetic profiling of a solitary Peutzâ€“Jeghers colon polyp. Journal of Physical Education and Sports Management, 2017, 3, a001610.	1.2	10
102	Phylogeographic reconstruction of the marbled crayfish origin. Communications Biology, 2021, 4, 1096.	4.4	8
103	Pathogen-Induced Epigenetic Modifications in Cancers: Implications for Prevention, Detection and Treatment of Cancers in Africa. Cancers, 2021, 13, 6051.	3.7	8
104	Novel methods for analysis of genomic DNA methylation. Analytical and Bioanalytical Chemistry, 2005, 381, 67-68.	3.7	7
105	Discovery of Inhibitors of DNA Methyltransferase 2, an Epitranscriptomic Modulator and Potential Target for Cancer Treatment. Journal of Medicinal Chemistry, 2022, 65, 9750-9788.	6.4	7
106	DAZAP2 acts as specifier of the p53 response to DNA damage. Nucleic Acids Research, 2021, 49, 2759-2776.	14.5	6
107	Evaluating Invasive Marbled Crayfish as a Potential Livestock for Sustainable Aquaculture. Frontiers in Ecology and Evolution, 2021, 9, .	2.2	5
108	Whole-Genome Bisulfite Sequencing for the Methylation Analysis of Insect Genomes. Methods in Molecular Biology, 2019, 1858, 141-156.	0.9	1

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109	Perceived socio-economic impacts of the marbled crayfish invasion in Madagascar. , 2020, 15, e0231773.		0
110	Perceived socio-economic impacts of the marbled crayfish invasion in Madagascar. , 2020, 15, e0231773.		0
111	Perceived socio-economic impacts of the marbled crayfish invasion in Madagascar. , 2020, 15, e0231773.		0
112	Perceived socio-economic impacts of the marbled crayfish invasion in Madagascar. , 2020, 15, e0231773.		0
113	Perceived socio-economic impacts of the marbled crayfish invasion in Madagascar. , 2020, 15, e0231773.		0
114	Perceived socio-economic impacts of the marbled crayfish invasion in Madagascar. , 2020, 15, e0231773.		0