Anastasia Khvorova

List of Publications by Year
in descending order

68 papers	17,441 citations	117625 34 h-index	98798 67 g-index
75 all docs	75 docs citations	75 times ranked	21497 citing authors

#	Article	IF	Citations
1	Minimal information for studies of extracellular vesicles 2018 (MISEV2018): a position statement of the International Society for Extracellular Vesicles and update of the MISEV2014 guidelines. Journal of Extracellular Vesicles, 2018, 7, 1535750.	12.2	6,961
2	Functional siRNAs and miRNAs Exhibit Strand Bias. Cell, 2003, 115, 209-216.	28.9	2,320
3	Rational siRNA design for RNA interference. Nature Biotechnology, 2004, 22, 326-330.	17.5	1,856
4	The chemical evolution of oligonucleotide therapies of clinical utility. Nature Biotechnology, 2017, 35, 238-248.	17.5	816
5	3â€² UTR seed matches, but not overall identity, are associated with RNAi off-targets. Nature Methods, 2006, 3, 199-204.	19.0	782
6	Position-specific chemical modification of siRNAs reduces "off-target" transcript silencing. Rna, 2006, 12, 1197-1205.	3.5	686
7	Highâ€resolution proteomic and lipidomic analysis of exosomes and microvesicles from different cell sources. Journal of Extracellular Vesicles, 2016, 5, 32570.	12.2	503
8	Exosome-mediated Delivery of Hydrophobically Modified siRNA for Huntingtin mRNA Silencing. Molecular Therapy, 2016, 24, 1836-1847.	8.2	351
9	Exosomes Produced from 3D Cultures of MSCs by Tangential Flow Filtration Show Higher Yield and Improved Activity. Molecular Therapy, 2018, 26, 2838-2847.	8.2	309
10	A protocol for designing siRNAs with high functionality and specificity. Nature Protocols, 2007, 2, 2068-2078.	12.0	197
11	Oligonucleotide Therapeutics â€" A New Class of Cholesterol-Lowering Drugs. New England Journal of Medicine, 2017, 376, 4-7.	27.0	128
12	RNAi modulation of placental sFLT1 for the treatment of preeclampsia. Nature Biotechnology, 2018, 36, 1164-1173.	17.5	126
13	A divalent siRNA chemical scaffold for potent and sustained modulation of gene expression throughout the central nervous system. Nature Biotechnology, 2019, 37, 884-894.	17.5	126
14	Comparison of partially and fully chemically-modified siRNA in conjugate-mediated delivery in vivo. Nucleic Acids Research, 2018, 46, 2185-2196.	14.5	125
15	Experimental validation of the importance of seed complement frequency to siRNA specificity. Rna, 2008, 14, 853-861.	3.5	122
16	Diverse lipid conjugates for functional extra-hepatic siRNA deliveryin vivo. Nucleic Acids Research, 2019, 47, 1082-1096.	14.5	122
17	Visualization of self-delivering hydrophobically modified siRNA cellular internalization. Nucleic Acids Research, 2017, 45, 15-25.	14.5	119
18	Hydrophobically Modified siRNAs Silence Huntingtin mRNA in Primary Neurons and Mouse Brain. Molecular Therapy - Nucleic Acids, 2015, 4, e266.	5.1	115

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19	Improving siRNA DeliveryIn VivoThrough Lipid Conjugation. Nucleic Acid Therapeutics, 2018, 28, 128-136.	3.6	90
20	Hydrophobicity drives the systemic distribution of lipid-conjugated siRNAs via lipid transport pathways. Nucleic Acids Research, 2019, 47, 1070-1081.	14.5	87
21	The NIH Somatic Cell Genome Editing program. Nature, 2021, 592, 195-204.	27.8	84
22	5Î„-Vinylphosphonate improves tissue accumulation and efficacy of conjugated siRNAs in vivo. Nucleic Acids Research, 2017, 45, 7581-7592.	14.5	83
23	Heavily and fully modified RNAs guide efficient SpyCas9-mediated genome editing. Nature Communications, 2018, 9, 2641.	12.8	83
24	Novel Hydrophobically Modified Asymmetric RNAi Compounds (sd-rxRNA) Demonstrate Robust Efficacy in the Eye. Journal of Ocular Pharmacology and Therapeutics, 2013, 29, 855-864.	1.4	67
25	Docosahexaenoic Acid Conjugation Enhances Distribution and Safety of siRNA upon Local Administration in Mouse Brain. Molecular Therapy - Nucleic Acids, 2016, 5, e344.	5.1	67
26	Optimized Cholesterol-siRNA Chemistry Improves Productive Loading onto Extracellular Vesicles. Molecular Therapy, 2018, 26, 1973-1982.	8.2	65
27	Serum Deprivation of Mesenchymal Stem Cells Improves Exosome Activity and Alters Lipid and Protein Composition. IScience, 2019, 16, 230-241.	4.1	61
28	Enriched chitosan nanoparticles loaded with siRNA are effective in lowering Huntington's disease gene expression following intranasal administration. Nanomedicine: Nanotechnology, Biology, and Medicine, 2020, 24, 102119.	3.3	55
29	Functional features defining the efficacy of cholesterol-conjugated, self-deliverable, chemically modified siRNAs. Nucleic Acids Research, 2018, 46, 10905-10916.	14.5	48
30	The valency of fatty acid conjugates impacts siRNA pharmacokinetics, distribution, and efficacy in vivo. Journal of Controlled Release, 2019, 302, 116-125.	9.9	48
31	Gene Silencing With siRNA (RNA Interference): A New Therapeutic Option During Ex Vivo Machine Liver Perfusion Preservation. Liver Transplantation, 2019, 25, 140-151.	2.4	47
32	Chitosan-Mangafodipir nanoparticles designed for intranasal delivery of siRNA and DNA to brain. Journal of Drug Delivery Science and Technology, 2018, 43, 453-460.	3.0	41
33	Guanabenz (Wytensinâ„¢) selectively enhances uptake and efficacy of hydrophobically modified siRNAs. Nucleic Acids Research, 2015, 43, 8664-8672.	14.5	39
34	Hydrophobically Modified let-7b miRNA Enhances Biodistribution to NSCLC and Downregulates HMGA2 InÂVivo. Molecular Therapy - Nucleic Acids, 2020, 19, 267-277.	5.1	39
35	A High-Throughput Method for Direct Detection of Therapeutic Oligonucleotide-Induced Gene SilencingIn Vivo. Nucleic Acid Therapeutics, 2016, 26, 86-92.	3.6	38
36	Pharmacokinetic Profiling of Conjugated Therapeutic Oligonucleotides: A High-Throughput Method Based Upon Serial Blood Microsampling Coupled to Peptide Nucleic Acid Hybridization Assay. Nucleic Acid Therapeutics, 2017, 27, 323-334.	3.6	37

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37	Docosanoic acid conjugation to siRNA enables functional and safe delivery to skeletal and cardiac muscles. Molecular Therapy, 2021, 29, 1382-1394.	8.2	37
38	Transvascular Delivery of Hydrophobically Modified siRNAs: Gene Silencing in the Rat Brain upon Disruption of the Blood-Brain Barrier. Molecular Therapy, 2018, 26, 2580-2591.	8.2	36
39	Nuclear Localization of Huntingtin mRNA Is Specific to Cells of Neuronal Origin. Cell Reports, 2018, 24, 2553-2560.e5.	6.4	34
40	AIM2 regulates anti-tumor immunity and is a viable therapeutic target for melanoma. Journal of Experimental Medicine, 2021, 218, .	8.5	34
41	Synthesis and Evaluation of Parenchymal Retention and Efficacy of a Metabolically Stable O-Phosphocholine-N-docosahexaenoyl-<scp>l</scp>-serine siRNA Conjugate in Mouse Brain. Bioconjugate Chemistry, 2017, 28, 1758-1766.	3.6	33
42	Novel Cluster and Monomer-Based GalNAc Structures Induce Effective Uptake of siRNAs in Vitro and in Vivo. Bioconjugate Chemistry, 2018, 29, 2478-2488.	3.6	32
43	The chemical structure and phosphorothioate content of hydrophobically modified siRNAs impact extrahepatic distribution and efficacy. Nucleic Acids Research, 2020, 48, 7665-7680.	14.5	32
44	Hydrophobicity of Lipid-Conjugated siRNAs Predicts Productive Loading to Small Extracellular Vesicles. Molecular Therapy, 2018, 26, 1520-1528.	8.2	31
45	Identifying siRNA-Induced Off-Targets by Microarray Analysis. Methods in Molecular Biology, 2008, 442, 45-63.	0.9	28
46	Loss of huntingtin function slows synaptic vesicle endocytosis in striatal neurons from the httQ140/Q140 mouse model of Huntington's disease. Neurobiology of Disease, 2020, 134, 104637.	4.4	24
47	Rac1 Activity Is Modulated by Huntingtin and Dysregulated in Models of Huntingtonâ€™s Disease. Journal of Huntington's Disease, 2019, 8, 53-69.	1.9	23
48	Single-Stranded Phosphorothioated Regions Enhance Cellular Uptake of Cholesterol-Conjugated siRNA but Not Silencing Efficacy. Molecular Therapy - Nucleic Acids, 2020, 21, 991-1005.	5.1	22
49	Cell Type Impacts Accessibility of mRNA to Silencing by RNA Interference. Molecular Therapy - Nucleic Acids, 2020, 21, 384-393.	5.1	20
50	Gene therapy with AR isoform 2 rescues spinal and bulbar muscular atrophy phenotype by modulating AR transcriptional activity. Science Advances, 2021, 7, .	10.3	20
51	An RNAi therapeutic targeting hepatic DGAT2 in a genetically obese mouse model of nonalcoholic steatohepatitis. Molecular Therapy, 2022, 30, 1329-1342.	8.2	18
52	Taking charge of siRNA delivery. Nature Biotechnology, 2014, 32, 1197-1198.	17.5	17
53	Nucleic Acid Therapeutics for Neurological Diseases. Neurotherapeutics, 2019, 16, 245-247.	4.4	16
54	Chemical optimization of siRNA for safe and efficient silencing of placental sFLT1. Molecular Therapy - Nucleic Acids, 2022, 29, 135-149.	5.1	15

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55	Efficient Gene Silencing in Brain Tumors with Hydrophobically Modified siRNAs. Molecular Cancer Therapeutics, 2018, 17, 1251-1258.	4.1	14
56	Loading of Extracellular Vesicles with Hydrophobically Modified siRNAs. Methods in Molecular Biology, 2018, 1740, 199-214.	0.9	13
57	RNAi-based modulation of IFN-Î³ signaling in skin. Molecular Therapy, 2022, 30, 2709-2721.	8.2	13
58	Delivering siRNA Compounds During HOPE to Modulate Organ Function: A Proof-of-concept Study in a Rat Liver Transplant Model. Transplantation, 2022, 106, 1565-1576.	1.0	13
59	2â€²-O-Methyl at 20-mer Guide Strand 3â€² Termini May Negatively Affect Target Silencing Activity of Fully Chemically Modified siRNA. Molecular Therapy - Nucleic Acids, 2020, 21, 266-277.	5.1	10
60	Loading of Extracellular Vesicles with Chemically Stabilized Hydrophobic siRNAs for the Treatment of Disease in the Central Nervous System. Bio-protocol, 2017, 7, .	0.4	9
61	Comparative route of administration studies using therapeutic siRNAs show widespread gene modulation in Dorset sheep. JCI Insight, 2021, 6, .	5.0	9
62	Editorial: Nucleic Acids Research and Nucleic Acid Therapeutics. Nucleic Acids Research, 2018, 46, 1563-1564.	14.5	8
63	Structurally constrained phosphonate internucleotide linkage impacts oligonucleotide-enzyme interaction, and modulates siRNA activity and allele specificity. Nucleic Acids Research, 2021, 49, 12069-12088.	14.5	8
64	PK-modifying anchors significantly alter clearance kinetics, tissue distribution, and efficacy of therapeutics siRNAs. Molecular Therapy - Nucleic Acids, 2022, 29, 116-132.	5.1	7
65	A High-throughput Assay for mRNA Silencing in Primary Cortical Neurons in vitro with Oligonucleotide Therapeutics. Bio-protocol, 2017, 7, .	0.4	6
66	Modulation of DNA transcription: The future of ASO therapeutics?. Cell, 2022, 185, 2011-2013.	28.9	5
67	Data on enrichment of chitosan nanoparticles for intranasal delivery of oligonucleotides to the brain. Data in Brief, 2020, 28, 105093.	1.0	3
68	Disrupting The Brain Keeper To Allow Silencing Of Deleterious Genes In The Nervous System. , 2018, , .		0