Baek Kim

List of Publications by Year
in descending order

127	6,911	76294	69214
papers	citations	40 h-index	77 g-index

132	132	132	5735
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	SAMHD1 restricts the replication of human immunodeficiency virus type 1 by depleting the intracellular pool of deoxynucleoside triphosphates. Nature Immunology, 2012, 13, 223-228.	7.0	719
2	SAMHD1 restricts HIV-1 infection in resting CD4+ T cells. Nature Medicine, 2012, 18, 1682-1688.	15.2	519
3	The Retroviral Restriction Ability of SAMHD1, but Not Its Deoxynucleotide Triphosphohydrolase Activity, Is Regulated by Phosphorylation. Cell Host and Microbe, 2013, 13, 441-451.	5.1	280
4	Macrophage Tropism of HIV-1 Depends on Efficient Cellular dNTP Utilization by Reverse Transcriptase. Journal of Biological Chemistry, 2004, 279, 51545-51553.	1.6	258
5	The ribonuclease activity of SAMHD1 is required for HIV-1 restriction. Nature Medicine, 2014, 20, 936-941.	15.2	244
6	Tight Interplay among SAMHD1 Protein Level, Cellular dNTP Levels, and HIV-1 Proviral DNA Synthesis Kinetics in Human Primary Monocyte-derived Macrophages. Journal of Biological Chemistry, 2012, 287, 21570-21574.	1.6	181
7	SAMHD1 restricts HIV-1 infection in dendritic cells (DCs) by dNTP depletion, but its expression in DCs and primary CD4+T-lymphocytes cannot be upregulated by interferons. Retrovirology, 2012, 9, 105.	0.9	166
8	Host Factor SAMHD1 Restricts DNA Viruses in Non-Dividing Myeloid Cells. PLoS Pathogens, 2013, 9, e1003481.	2.1	151
9	SAMHD1 Promotes DNA End Resection to Facilitate DNA Repair by Homologous Recombination. Cell Reports, 2017, 20, 1921-1935.	2.9	147
10	Mouse SAMHD1 Has Antiretroviral Activity and Suppresses a Spontaneous Cell-Intrinsic Antiviral Response. Cell Reports, 2013, 4, 689-696.	2.9	139
11	SAMHD1 prevents autoimmunity by maintaining genome stability. Annals of the Rheumatic Diseases, 2015, 74, e17-e17.	0.5	133
12	Restriction of diverse retroviruses by SAMHD1. Retrovirology, 2013, 10, 26.	0.9	124
13	Contribution of SAM and HD domains to retroviral restriction mediated by human SAMHD1. Virology, 2013, 436, 81-90.	1.1	120
14	The Vpx Lentiviral Accessory Protein Targets SAMHD1 for Degradation in the Nucleus. Journal of Virology, 2012, 86, 12552-12560.	1.5	112
15	Metabolite profiles of human immunodeficiency virus infected CD4+ T cells and macrophages using LCâ€“MS/MS analysis. Virology, 2011, 415, 153-159.	1.1	111
16	Akt inhibitors as an HIV-1 infected macrophage-specific anti-viral therapy. Retrovirology, 2008, 5, 11.	0.9	100
17	HIV-1 Vpr-Induced Apoptosis Is Cell Cycle Dependent and Requires Bax but Not ANT. PLoS Pathogens, 2006, 2, e127.	2.1	98
18	A Novel Mechanism Driving Poor-Prognosis Prostate Cancer: Overexpression of the DNA Repair Gene, Ribonucleotide Reductase Small Subunit M2 (RRM2). Clinical Cancer Research, 2019, 25, 4480-4492.	3.2	96

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19	The lncRNA lincNMR regulates nucleotide metabolism via a YBX1 - RRM2 axis in cancer. Nature Communications, 2020, 11, 3214.	5.8	96
20	Ribonucleoside Triphosphates as Substrate of Human Immunodeficiency Virus Type 1 Reverse Transcriptase in Human Macrophages. Journal of Biological Chemistry, 2010, 285, 39380-39391.	1.6	94
21	SAMHD1-mediated HIV-1 restriction in cells does not involve ribonuclease activity. Nature Medicine, 2016, 22, 1072-1074.	15.2	85
22	p21-mediated RNR2 repression restricts HIV-1 replication in macrophages by inhibiting dNTP biosynthesis pathway. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E3997-4006.	3.3	83
23	A G1â€like state allows <scp>HIV</scp> â€1 to bypass <scp>SAMHD</scp> 1 restriction in macrophages. EMBO Journal, 2017, 36, 604-616.	3.5	82
24	SAMHD1 controls cell cycle status, apoptosis and HIV-1 infection in monocytic THP-1 cells. Virology, 2016, 495, 92-100.	1.1	77
25	Targeting PFKFB3 radiosensitizes cancer cells and suppresses homologous recombination. Nature Communications, 2018, 9, 3872.	5.8	77
26	Intracellular nucleotide levels and the control of retroviral infections. Virology, 2013, 436, 247-254.	1.1	76
27	Phosphoinositide 3-kinase inhibitors induce DNA damage through nucleoside depletion. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E4338-47.	3.3	76
28	GTP Is the Primary Activator of the Anti-HIV Restriction Factor SAMHD1. Journal of Biological Chemistry, 2013, 288, 25001-25006.	1.6	72
29	Thermal Effects on Reverse Transcription: Improvement of Accuracy and Processivity in cDNA Synthesis. BioTechniques, 2001, 30, 1074-1084.	0.8	57
30	Restrictive influence of SAMHD1 on Hepatitis B Virus life cycle. Scientific Reports, 2016, 6, 26616.	1.6	56
31	Evidence for IFNÎ±-induced, SAMHD1-independent inhibitors of early HIV-1 infection. Retrovirology, 2013, 10, 23.	0.9	54
32	A Role for dNTP Binding of Human Immunodeficiency Virus Type 1 Reverse Transcriptase in Viral Mutagenesis. Biochemistry, 2004, 43, 4490-4500.	1.2	53
33	SAMHD1 is recurrently mutated in T-cell prolymphocytic leukemia. Blood Cancer Journal, 2018, 8, 11.	2.8	52
34	SAMHD1 Functions and Human Diseases. Viruses, 2020, 12, 382.	1.5	51
35	Mechanistic Differences in RNA-dependent DNA Polymerization and Fidelity between Murine Leukemia Virus and HIV-1 Reverse Transcriptases. Journal of Biological Chemistry, 2005, 280, 12190-12200.	1.6	50
36	HPV31 utilizes the ATR-Chk1 pathway to maintain elevated RRM2 levels and a replication-competent environment in differentiating Keratinocytes. Virology, 2016, 499, 383-396.	1.1	49

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37	Dephosphorylation of the HIV-1 restriction factor SAMHD1 is mediated by PP2A-B55Î± holoenzymes during mitotic exit. Nature Communications, 2018, 9, 2227.	5.8	49
38	Infection of Human Immunodeficiency Virus and Intracellular Viral Tat Protein Exert a Pro-survival Effect in a Human Microglial Cell Line. Journal of Molecular Biology, 2007, 366, 67-81.	2.0	48
39	Chemotherapy induces Notch1-dependent MRP1 up-regulation, inhibition of which sensitizes breast cancer cells to chemotherapy. BMC Cancer, 2015, 15, 634.	1.1	48
40	Effects of T592 phosphomimetic mutations on tetramer stability and dNTPase activity of SAMHD1 can not explain the retroviral restriction defect. Scientific Reports, 2016, 6, 31353.	1.6	48
41	Anti-HIV Host Factor SAMHD1 Regulates Viral Sensitivity to Nucleoside Reverse Transcriptase Inhibitors via Modulation of Cellular Deoxyribonucleoside Triphosphate (dNTP) Levels. Journal of Biological Chemistry, 2013, 288, 20683-20691.	1.6	46
42	Vpx overcomes a SAMHD1-independent block to HIV reverse transcription that is specific to resting CD4 T cells. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 2729-2734.	3.3	46
43	Substrates and Inhibitors of SAMHD1. PLoS ONE, 2017, 12, e0169052.	1.1	45
44	Repurposing Nucleoside Analogs for Human Coronaviruses. Antimicrobial Agents and Chemotherapy, 2020, 65, .	1.4	45
45	Frequent Incorporation of Ribonucleotides during HIV-1 Reverse Transcription and Their Attenuated Repair in Macrophages. Journal of Biological Chemistry, 2012, 287, 14280-14288.	1.6	43
46	Vpx rescue of HIV-1 from the antiviral state in mature dendritic cells is independent of the intracellular deoxynucleotide concentration. Retrovirology, 2014, 11, 12.	0.9	42
47	Mechanistic Role of Residue Gln151 in Error Prone DNA Synthesis by Human Immunodeficiency Virus Type 1 (HIV-1) Reverse Transcriptase (RT). Journal of Biological Chemistry, 2002, 277, 22662-22669.	1.6	40
48	The SAMHD1-mediated block of LINE-1 retroelements is regulated by phosphorylation. Mobile DNA, 2018, 9, 11.	1.3	40
49	Genetic Selection inEscherichia colifor Active Human Immunodeficiency Virus Reverse Transcriptase Mutants. Methods, 1997, 12, 318-324.	1.9	39
50	Modification of Human Immunodeficiency Virus Type 1 Reverse Transcriptase to Target Cells with Elevated Cellular dNTP Concentrations. Journal of Biological Chemistry, 2006, 281, 13388-13395.	1.6	39
51	Thymidylate synthase maintains the de-differentiated state of triple negative breast cancers. Cell Death and Differentiation, 2019, 26, 2223-2236.	5.0	39
52	Endonuclease substrate selectivity characterized with full-length PA of influenza A virus polymerase. Virology, 2012, 433, 27-34.	1.1	38
53	Establishment and Reversal of HIV-1 Latency in Naive and Central Memory CD4⁺T CellsIn Vitro. Journal of Virology, 2016, 90, 8059-8073.	1.5	37
54	dNTP pool modulation dynamics by SAMHD1 protein in monocyte-derived macrophages. Retrovirology, 2014, 11, 63.	0.9	36

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55	Ribonucleotide reductase inhibitors suppress <scp>SAMHD</scp> 1 araâ€•<scp>CTP</scp> ase activity enhancing cytarabine efficacy. EMBO Molecular Medicine, 2020, 12, e10419.	3.3	35
56	Abundant Non-canonical dUTP Found in Primary Human Macrophages Drives Its Frequent Incorporation by HIV-1 Reverse Transcriptase. Journal of Biological Chemistry, 2011, 286, 25047-25055.	1.6	34
57	USP18 (UBP43) Abrogates p21-Mediated Inhibition of HIV-1. Journal of Virology, 2018, 92, .	1.5	34
58	CD81 association with SAMHD1 enhances HIV-1 reverse transcription by increasing dNTP levels. Nature Microbiology, 2017, 2, 1513-1522.	5.9	34
59	An Integrated Biological Approach to Guide the Development of Metal-Chelating Inhibitors of Influenza Virus PA Endonuclease. Molecular Pharmacology, 2015, 87, 323-337.	1.0	33
60	Contribution of oligomerization to the anti-HIV-1 properties of SAMHD1. Retrovirology, 2013, 10, 131.	0.9	32
61	Metabolic profiling during HIV-1 and HIV-2 infection of primary human monocyte-derived macrophages. Virology, 2016, 491, 106-114.	1.1	32
62	A SAMHD1 mutation associated with Aicardi-GoutiÃ¨res syndrome uncouples the ability of SAMHD1 to restrict HIV-1 from its ability to downmodulate type I interferon in humans. Human Mutation, 2017, 38, 658-668.	1.1	31
63	Interferon block to HIV-1 transduction in macrophages despite SAMHD1 degradation and high deoxynucleoside triphosphates supply. Retrovirology, 2013, 10, 30.	0.9	30
64	Comparison of DNA polymerase activities between recombinant feline immunodeficiency and leukemia virus reverse transcriptases. Virology, 2005, 335, 106-121.	1.1	29
65	A central role for PI3K-AKT signaling pathway in linking SAMHD1-deficiency to the type I interferon signature. Scientific Reports, 2018, 8, 84.	1.6	29
66	Phosphorylation of mouse SAMHD1 regulates its restriction of human immunodeficiency virus type 1 infection, but not murine leukemia virus infection. Virology, 2016, 487, 273-284.	1.1	27
67	p21 Restricts HIV-1 in Monocyte-Derived Dendritic Cells through the Reduction of Deoxynucleoside Triphosphate Biosynthesis and Regulation of SAMHD1 Antiviral Activity. Journal of Virology, 2017, 91, .	1.5	27
68	Prolyl hydroxylase substrate adenylosuccinate lyase is an oncogenic driver in triple negative breast cancer. Nature Communications, 2019, 10, 5177.	5.8	27
69	The aryl hydrocarbon receptor and interferon gamma generate antiviral states via transcriptional repression. ELife, 2018, 7, .	2.8	27
70	Mechanistic Understanding of an Altered Fidelity Simian Immunodeficiency Virus Reverse Transcriptase Mutation, V148I, Identified in a Pig-tailed Macaque. Journal of Biological Chemistry, 2003, 278, 29913-29924.	1.6	26
71	Mechanistic and Kinetic Differences between Reverse Transcriptases of Vpx Coding and Non-coding Lentiviruses. Journal of Biological Chemistry, 2015, 290, 30078-30086.	1.6	26
72	SAMHD1 enhances immunoglobulin hypermutation by promoting transversion mutation. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 4921-4926.	3.3	26

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73	Nucleic acid binding by SAMHD1 contributes to the antiretroviral activity and is enhanced by the GpsN modification. Nature Communications, 2021, 12, 731.	5.8	26
74	Reduced dNTP Binding Affinity of 3TC-resistant M184I HIV-1 Reverse Transcriptase Variants Responsible for Viral Infection Failure in Macrophage. Journal of Biological Chemistry, 2008, 283, 9206-9216.	1.6	25
75	Novel inhibitors of human immunodeficiency virus type 2 infectivity. Journal of General Virology, 2014, 95, 2778-2783.	1.3	25
76	The Impact of Macrophage Nucleotide Pools on HIV-1 Reverse Transcription, Viral Replication, and the Development of Novel Antiviral Agents. Molecular Biology International, 2012, 2012, 1-8.	1.7	24
77	The human H5N1 influenza A virus polymerase complex is active in vitro over a broad range of temperatures, in contrast to the WSN complex, and this property can be attributed to the PB2 subunit. Journal of General Virology, 2008, 89, 2923-2932.	1.3	24
78	Neutralization of Acidic Intracellular Vesicles by Niclosamide Inhibits Multiple Steps of the Dengue Virus Life Cycle In Vitro. Scientific Reports, 2019, 9, 8682.	1.6	23
79	Mechanisms That Prevent Template Inactivation by HIV-1 Reverse Transcriptase RNase H Cleavages. Journal of Biological Chemistry, 2007, 282, 12598-12609.	1.6	22
80	Identification of a Simian Immunodeficiency Virus Reverse Transcriptase Variant with Enhanced Replicational Fidelity in the Late Stage of Viral Infection. Journal of Biological Chemistry, 2001, 276, 23624-23631.	1.6	21
81	Kinetic variations between reverse transcriptases of viral protein X coding and noncoding lentiviruses. Retrovirology, 2014, 11, 111.	0.9	21
82	Comparative Study of the Temperature Sensitive, Cold Adapted and Attenuated Mutations Present in the Master Donor Viruses of the Two Commercial Human Live Attenuated Influenza Vaccines. Viruses, 2019, 11, 928.	1.5	21
83	Ribonucleotide incorporation in yeast genomic DNA shows preference for cytosine and guanosine preceded by deoxyadenosine. Nature Communications, 2020, 11, 2447.	5.8	21
84	Functionality of Redox-Active Cysteines Is Required for Restriction of Retroviral Replication by SAMHD1. Cell Reports, 2018, 24, 815-823.	2.9	20
85	SAMHD1 deficient human monocytes autonomously trigger type I interferon. Molecular Immunology, 2018, 101, 450-460.	1.0	20
86	Comparison of anti-SARS-CoV-2 activity and intracellular metabolism of remdesivir and its parent nucleoside. Current Research in Pharmacology and Drug Discovery, 2021, 2, 100045.	1.7	20
87	A Highly Active Isoform of Lentivirus Restriction Factor SAMHD1 in Mouse. Journal of Biological Chemistry, 2017, 292, 1068-1080.	1.6	19
88	SUMOylation of SAMHD1 at Lysine 595 is required for HIV-1 restriction in non-cycling cells. Nature Communications, 2021, 12, 4582.	5.8	17
89	Interplay of ancestral non-primate lentiviruses with the virus-restricting SAMHD1 proteins of their hosts. Journal of Biological Chemistry, 2018, 293, 16402-16412.	1.6	16
90	Dihydropyrimidinase protects from DNA replication stress caused by cytotoxic metabolites. Nucleic Acids Research, 2020, 48, 1886-1904.	6.5	16

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91	A highly potent and safe pyrrolopyridine-based allosteric HIV-1 integrase inhibitor targeting host LEDGF/p75-integrase interaction site. PLoS Pathogens, 2021, 17, e1009671.	2.1	16
92	A CRISPR/Cas9 approach reveals that the polymerase activity of DNA polymerase Î² is dispensable for HIV-1 infection in dividing and nondividing cells. Journal of Biological Chemistry, 2017, 292, 14016-14025.	1.6	14
93	A Cyclin-Binding Motif in Human SAMHD1 Is Required for Its HIV-1 Restriction, dNTPase Activity, Tetramer Formation, and Efficient Phosphorylation. Journal of Virology, 2018, 92, .	1.5	14
94	The dNTPase activity of SAMHD1 is important for its suppression of innate immune responses in differentiated monocytic cells. Journal of Biological Chemistry, 2020, 295, 1575-1586.	1.6	14
95	The impact of molecular manipulation in residue 114 of human immunodeficiency virus type-1 reverse transcriptase on dNTP substrate binding and viral replication. Virology, 2012, 422, 393-401.	1.1	13
96	Dual anti-HIV mechanism of clofarabine. Retrovirology, 2016, 13, 20.	0.9	13
97	Novel Insights into the Molecular Regulation of Ribonucleotide Reductase in Adrenocortical Carcinoma Treatment. Cancers, 2021, 13, 4200.	1.7	13
98	Restricted 5â€²-End Gap Repair of HIV-1 Integration Due to Limited Cellular dNTP Concentrations in Human Primary Macrophages. Journal of Biological Chemistry, 2013, 288, 33253-33262.	1.6	11
99	Host SAMHD1 Protein Promotes HIV-1 Recombination in Macrophages. Journal of Biological Chemistry, 2014, 289, 2489-2496.	1.6	11
100	Vpx mediated degradation of SAMHD1 has only a very limited effect on lentiviral transduction rate in ex vivo cultured HSPCs. Stem Cell Research, 2015, 15, 271-280.	0.3	10
101	Modulation of LINE-1 retrotransposition by a human SAMHD1 polymorphism. Virology Reports, 2016, 6, 53-60.	0.4	10
102	5-Azacytidine Enhances the Mutagenesis of HIV-1 by Reduction to 5-Aza-2â€²-Deoxycytidine. Antimicrobial Agents and Chemotherapy, 2016, 60, 2318-2325.	1.4	10
103	Tetraspanin CD81 regulates HSV-1 infection. Medical Microbiology and Immunology, 2020, 209, 489-498.	2.6	10
104	Mechanistic Variations among Reverse Transcriptases of Simian Immunodeficiency Virus Variants Isolated from African Green Monkeys. Biochemistry, 2009, 48, 5389-5395.	1.2	9
105	Elimination of Aicardiâ€“GoutiÃ¨res syndrome protein SAMHD1 activates cellular innate immunity and suppresses SARS-CoV-2 replication. Journal of Biological Chemistry, 2022, 298, 101635.	1.6	9
106	Deoxynucleoside Triphosphate Incorporation Mechanism of Foamy Virus (FV) Reverse Transcriptase: Implications for Cell Tropism of FV. Journal of Virology, 2008, 82, 8235-8238.	1.5	7
107	Effect of Ribonucleotides Embedded in a DNA Template on HIV-1 Reverse Transcription Kinetics and Fidelity. Journal of Biological Chemistry, 2013, 288, 12522-12532.	1.6	7
108	Host SAMHD1 protein restricts endogenous reverse transcription of HIV-1 in nondividing macrophages. Retrovirology, 2018, 15, 69.	0.9	7

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109	Structural and functional characterization explains loss of dNTPase activity of the cancer-specific R366C/H mutant SAMHD1 proteins. Journal of Biological Chemistry, 2021, 297, 101170.	1.6	7
110	Oncogenic Integration of Nucleotide Metabolism via Fatty Acid Synthase in Non-Hodgkin Lymphoma. Frontiers in Oncology, 2021, 11, 725137.	1.3	7
111	Efficient pre-catalytic conformational change of reverse transcriptases from SAMHD1 non-counteracting primate lentiviruses during dNTP incorporation. Virology, 2019, 537, 36-44.	1.1	6
112	Effect of induced dNTP pool imbalance on HIV-1 reverse transcription in macrophages. Retrovirology, 2019, 16, 29.	0.9	6
113	Mechanistic cross-talk between DNA/RNA polymerase enzyme kinetics and nucleotide substrate availability in cells: Implications for polymerase inhibitor discovery. Journal of Biological Chemistry, 2020, 295, 13432-13443.	1.6	6
114	MESH1 knockdown triggers proliferation arrest through TAZ repression. Cell Death and Disease, 2022, 13, 221.	2.7	6
115	Differential regulatory activities of viral protein X for anti-viral efficacy of nucleos(t)ide reverse transcriptase inhibitors in monocyte-derived macrophages and activated CD4+ T cells. Virology, 2015, 485, 313-321.	1.1	5
116	Disproportionate presence of adenosine in mitochondrial and chloroplast DNA of Chlamydomonas reinhardtii. IScience, 2021, 24, 102005.	1.9	5
117	Incomplete Suppression of HIV-1 by SAMHD1 Permits Efficient Macrophage Infection. Pathogens and Immunity, 2018, 3, 197.	1.4	5
118	Pre-steady state kinetic analysis of HIV-1 reverse transcriptase for non-canonical ribonucleoside triphosphate incorporation and DNA synthesis from ribonucleoside-containing DNA template. Antiviral Research, 2015, 115, 75-82.	1.9	4
119	In silico screening identifies a novel small molecule inhibitor that counteracts PARP inhibitor resistance in ovarian cancer. Scientific Reports, 2021, 11, 8042.	1.6	4
120	HIV-1 Reverse Transcriptase-Based Assay to Determine Cellular dNTP Concentrations. Methods in Molecular Biology, 2016, 1354, 61-70.	0.4	4
121	SAMHD1 Promotes the Antiretroviral Adaptive Immune Response in Mice Exposed to Lipopolysaccharide. Journal of Immunology, 2022, 208, 444-453.	0.4	4
122	The smallâ€molecule 3G11 inhibits HIVâ€1 reverse transcription. Chemical Biology and Drug Design, 2017, 89, 608-618.	1.5	3
123	Viral protein X reduces the incorporation of mutagenic noncanonical rNTPs during lentivirus reverse transcription in macrophages. Journal of Biological Chemistry, 2020, 295, 657-666.	1.6	3
124	Nucleotide Analogues Bearing a C2â€² or C3â€²-Stereogenic All-Carbon Quaternary Center as SARS-CoV-2 RdRp Inhibitors. Molecules, 2022, 27, 564.	1.7	3
125	Enhanced enzyme kinetics of reverse transcriptase variants cloned from animals infected with SIVmac239 lacking viral protein X. Journal of Biological Chemistry, 2020, 295, 16975-16986.	1.6	2
126	Distinct Antiretroviral Mechanisms Elicited by a Viral Mutagen. Journal of Molecular Biology, 2021, 433, 167111.	2.0	1

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127	Abstract P5-17-04: Combined PI3K and NOS inhibition enhances efficacy of taxane-based chemotherapy in metaplastic breast cancer. Cancer Research, 2022, 82, P5-17-04-P5-17-04.	0.4	0