Kalappa Muniyappa

List of Publications by Year
in descending order

110 papers	3,184 citations	136950 32 h-index	182427 51 g-index
112 all docs	112 docs citations	112 times ranked	2642 citing authors

#	Article	IF	Citations
1	Mechanism of the concerted action of recA protein and helix-destabilizing proteins in homologous recombination.. Proceedings of the National Academy of Sciences of the United States of America, 1984, 81, 2757-2761.	7.1	156
2	Isolation and visualization of active presynaptic filaments of recA protein and single-stranded DNA.. Proceedings of the National Academy of Sciences of the United States of America, 1984, 81, 7026-7030.	7.1	139
3	The homologous recombination system of phage lambda. Pairing activities of beta protein. Journal of Biological Chemistry, 1986, 261, 7472-8.	3.4	126
4	Intermediates in homologous pairing promoted by recA protein. Journal of Molecular Biology, 1985, 185, 295-309.	4.2	122
5	Novel derivatives of spirohydantoin induce growth inhibition followed by apoptosis in leukemia cells. Biochemical Pharmacology, 2009, 77, 348-363.	4.4	118
6	Suramin is a potent and selective inhibitor of Mycobacterium tuberculosis RecA protein and the SOS response: RecA as a potential target for antibacterial drug discovery. Journal of Antimicrobial Chemotherapy, 2014, 69, 1834-1843.	3.0	93
7	Design and Synthesis of New Benzimidazoleâ€“Carbazole Conjugates for the Stabilization of Human Telomeric DNA, Telomerase Inhibition, and Their Selective Action on Cancer Cells. Journal of Medicinal Chemistry, 2014, 57, 6973-6988.	6.4	92
8	Yeast Meiosis-Specific Protein Hop1 Binds to G4 DNA and Promotes Its Formation. Molecular and Cellular Biology, 2000, 20, 1361-1369.	2.3	91
9	Crystal structures of Mycobacterium tuberculosis RecA and its complex with ADP-AlF4: implications for decreased ATPase activity and molecular aggregation. Nucleic Acids Research, 2000, 28, 4964-4973.	14.5	90
10	DNA-Binding Activities of Hop1 Protein, a Synaptonemal Complex Component from Saccharomyces cerevisiae. Molecular and Cellular Biology, 1998, 18, 1424-1435.	2.3	78
11	Stabilization and Structural Alteration of the G-Quadruplex DNA Made from the Human Telomeric Repeat Mediated by TrÃ¶gerâ€™s Base Based Novel Benzimidazole Derivatives. Journal of Medicinal Chemistry, 2012, 55, 7460-7471.	6.4	75
12	Dimeric 1,3-Phenylene-bis(piperazinyl benzimidazole)s: Synthesis and Structureâ€“Activity Investigations on their Binding with Human Telomeric G-Quadruplex DNA and Telomerase Inhibition Properties. Journal of Medicinal Chemistry, 2012, 55, 2981-2993.	6.4	70
13	RecX protein abrogates ATP hydrolysis and strand exchange promoted by RecA: Insights into negative regulation of homologous recombination. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 12091-12096.	7.1	65
14	Crystal Structures of Mycobacterium smegmatis RecA and Its Nucleotide Complexes. Journal of Bacteriology, 2003, 185, 4280-4284.	2.2	61
15	Structural studies on MtRecA-nucleotide complexes: Insights into DNA and nucleotide binding and the structural signature of NTP recognition. Proteins: Structure, Function and Bioinformatics, 2003, 50, 474-485.	2.6	58
16	Saccharomyces cerevisiae Mre11 is a high-affinity G4 DNA-binding protein and a G-rich DNA-specific endonuclease: implications for replication of telomeric DNA. Nucleic Acids Research, 2005, 33, 4692-4703.	14.5	56
17	Characterization of Single-stranded DNA-binding Proteins from Mycobacteria. Journal of Biological Chemistry, 2001, 276, 45959-45968.	3.4	53
18	Enhanced G-Quadruplex DNA Stabilization and Telomerase Inhibition by Novel Fluorescein Derived Salen and Salphen Based Ni(II) and Pd(II) Complexes. Bioconjugate Chemistry, 2017, 28, 341-352.	3.6	51

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19	Targeting G-quadruplex DNA structures in the telomere and oncogene promoter regions by benzimidazoleâ€'carbazole ligands. European Journal of Medicinal Chemistry, 2018, 148, 178-194.	5.5	49
20	Characterization of the DNA-binding domain of Î² protein, a component of phage Î» Red-pathway, by UV catalyzed cross-linking. Gene, 1996, 182, 81-87.	2.2	43
21	Identification and characterization of two conserved G-quadruplex forming motifs in the Nipah virus genome and their interaction with G-quadruplex specific ligands. Scientific Reports, 2020, 10, 1477.	3.3	42
22	Hoogsteen base-pairing revisited: Resolving a role in normal biological processes and human diseases. Biochemical and Biophysical Research Communications, 2006, 343, 1-7.	2.1	41
23	Functional Characterization of the Precursor and Spliced Forms of RecA Protein ofMycobacterium tuberculosisâ€. Biochemistry, 1996, 35, 1793-1802.	2.5	40
24	Snapshots of RecA Protein Involving Movement of the C-domain and Different Conformations of the DNA-binding Loops: Crystallographic and Comparative Analysis of 11 Structures of Mycobacterium smegmatis RecA. Journal of Molecular Biology, 2007, 367, 1130-1144.	4.2	40
25	The biological and structural characterization of Mycobacterium tuberculosis UvrA provides novel insights into its mechanism of action. Nucleic Acids Research, 2011, 39, 7316-7328.	14.5	40
26	Unwinding of heterologous DNA by RecA protein during the search for homologous sequences. Journal of Molecular Biology, 1992, 226, 127-139.	4.2	39
27	Functional and Regulatory Characteristics of Eukaryotic Type II DNA Topoisomerase. Critical Reviews in Biochemistry and Molecular Biology, 2001, 36, 1-37.	5.2	39
28	Force and ATP hydrolysis dependent regulation of RecA nucleoprotein filament by single-stranded DNA binding protein. Nucleic Acids Research, 2013, 41, 924-932.	14.5	39
29	Crystallographic identification of an ordered C-terminal domain and a second nucleotide-binding site in RecA: new insights into allostery. Nucleic Acids Research, 2006, 34, 2186-2195.	14.5	38
30	Meiosis-specific yeast Hop1 protein promotes synapsis of double-stranded DNA helices via the formation of guanine quartets. Nucleic Acids Research, 2004, 32, 2378-2385.	14.5	37
31	Specific stabilization of promoter G-Quadruplex DNA by 2,6-disubstituted amidoanthracene-9,10-dione based dimeric distamycin analogues and their selective cancer cell cytotoxicity. European Journal of Medicinal Chemistry, 2020, 195, 112202.	5.5	36
32	New dimeric carbazoleâ€"benzimidazole mixed ligands for the stabilization of human telomeric G-quadruplex DNA and as telomerase inhibitors. A remarkable influence of the spacer. Organic and Biomolecular Chemistry, 2015, 13, 8335-8348.	2.8	34
33	Active nucleoprotein filaments of single-stranded binding protein and recA protein on single-stranded DNA have a regular repeating structure. Nucleic Acids Research, 1990, 18, 3967-3973.	14.5	33
34	Novel Oligopyrrole Carboxamide based Nickel(II) and Palladium(II) Salens, Their Targeting of Human Gâ€Quadruplex DNA, and Selective Cancer Cell Toxicity. Chemistry - an Asian Journal, 2016, 11, 2542-2554.	3.3	32
35	Nucleosomes on linear duplex DNA allow homologous pairing but prevent strand exchange promoted by RecA protein.. Proceedings of the National Academy of Sciences of the United States of America, 1991, 88, 1344-1348.	7.1	31
36	Intermediates in Homologous Pairing Promoted by RecA Protein and Correlations of Recombination In Vitro and In Vivo. Cold Spring Harbor Symposia on Quantitative Biology, 1984, 49, 513-523.	1.1	30

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37	Structure ofMycobacterium smegmatissingle-stranded DNA-binding protein and a comparative study involving homologus SSBs: biological implications of structural plasticity and variability in quaternary association. Acta Crystallographica Section D: Biological Crystallography, 2005, 61, 1140-1148.	2.5	29
38	Use of structure-directed DNA ligands to probe the binding of recA protein to narrow and wide grooves of DNA and on its ability to promote homologous pairing. Journal of Biological Chemistry, 1992, 267, 24824-32.	3.4	29
39	Novel ruthenium azo-quinoline complexes with enhanced photonuclease activity in human cancer cells. European Journal of Medicinal Chemistry, 2017, 139, 1016-1029.	5.5	27
40	RecA Protein of Mycobacterium tuberculosis Possesses pH-Dependent Homologous DNA Pairing and Strand Exchange Activities:â€‰ Implications for Allele Exchange in Mycobacteria. Biochemistry, 1999, 38, 3175-3186.	2.5	26
41	Evidence for the role of <scp>M</scp>ycobacteriumÂtuberculosis <scp>RecG</scp> helicase in <scp>DNA</scp> repair and recombination. FEBS Journal, 2013, 280, 1841-1860.	4.7	26
42	Developmental and hormonal regulation of type II DNA topoisomerase in rat testis. Journal of Molecular Endocrinology, 2001, 26, 193-206.	2.5	25
43	The Characterization of Saccharomyces cerevisiae Mre11/Rad50/Xrs2 Complex Reveals that Rad50 Negatively Regulates Mre11 Endonucleolytic but not the Exonucleolytic Activity. Journal of Molecular Biology, 2007, 372, 864-882.	4.2	25
44	Mycobacterium tuberculosis UvrD1 and UvrA Proteins Suppress DNA Strand Exchange Promoted by Cognate and Noncognate RecA Proteins. Biochemistry, 2010, 49, 4872-4883.	2.5	24
45	Mycobacterium tuberculosis UvrB Is a Robust DNA-Stimulated ATPase That Also Possesses Structure-Specific ATP-Dependent DNA Helicase Activity. Biochemistry, 2016, 55, 5865-5883.	2.5	24
46	Characterization of DNA Strand Transfer Promoted byMycobacterium smegmatisRecA Reveals Functional Diversity withMycobacterium tuberculosisRecAâ€. Biochemistry, 2003, 42, 7216-7225.	2.5	23
47	Structural and Functional Characteristics of Homing Endonucleases. Critical Reviews in Biochemistry and Molecular Biology, 2003, 38, 199-248.	5.2	23
48	Mycobacterium tuberculosis nucleoid-associated DNA-binding protein H-NS binds with high-affinity to the Holliday junction and inhibits strand exchange promoted by RecA protein. Nucleic Acids Research, 2010, 38, 3555-3569.	14.5	23
49	Binding of Gemini Bisbenzimidazole Drugs with Human Telomeric G-Quadruplex Dimers: Effect of the Spacer in the Design of Potent Telomerase Inhibitors. PLoS ONE, 2012, 7, e39467.	2.5	22
50	Genome-wide analysis reveals a regulatory role for G-quadruplexes during Adenovirus multiplication. Virus Research, 2020, 283, 197960.	2.2	21
51	Telomere Structure, Replication and Length Maintenance. Critical Reviews in Biochemistry and Molecular Biology, 1998, 33, 297-336.	5.2	20
52	Processing of DNA Double-stranded Breaks and Intermediates of Recombination and Repair by Saccharomyces cerevisiae Mre11 and Its Stimulation by Rad50, Xrs2, and Sae2 Proteins. Journal of Biological Chemistry, 2013, 288, 11273-11286.	3.4	20
53	The second messenger cyclic diâ€AMP negatively regulates the expression of Mycobacterium smegmatis recA and attenuates DNA strand exchange through binding to the Câ€terminal motif of mycobacterial RecA proteins. Molecular Microbiology, 2018, 109, 600-614.	2.5	20
54	Comparative genomics of Mycobacterium tuberculosis and Escherichia coli for recombination (rec) genes. Microbiology (United Kingdom), 2000, 146, 2093-2095.	1.8	20

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55	Differential regulation of MRN (Mre11â€“Rad50â€“Nbs1) complex subunits and telomerase activity in cancer cells. Biochemical and Biophysical Research Communications, 2010, 399, 575-580.	2.1	19
56	Molecular Aspects of Meiotic Chromosome Synapsis and Recombination. Progress in Molecular Biology and Translational Science, 2005, 79, 49-132.	1.9	18
57	Synergy between the Nâ€terminal and Câ€terminal domains of Mycobacteriumâ€ƒtuberculosis HupB is essential for highâ€affinity binding, DNA supercoiling and inhibition of RecAâ€promoted strand exchange. FEBS Journal, 2011, 278, 3447-3462.	4.7	18
58	Probing the Potential Role of Non-B DNA Structures at Yeast Meiosis-Specific DNA Double-Strand Breaks. Biophysical Journal, 2017, 112, 2056-2074.	0.5	18
59	Saccharomyces cerevisiae Hop1 Zinc Finger Motif Is the Minimal Region Required for Its Function in Vitro. Journal of Biological Chemistry, 2004, 279, 28961-28969.	3.4	17
60	Selective Binding of Meiosis-specific Yeast Hop1 Protein to the Holliday Junctions Distorts the DNA Structure and Its Implications for Junction Migration and Resolution. Journal of Molecular Biology, 2006, 364, 599-611.	4.2	17
61	The HORMA domain: an evolutionarily conserved domain discovered in chromatin-associated proteins, has unanticipated diverse functions. Gene, 2014, 545, 194-197.	2.2	17
62	Mycobacterium tuberculosis RecA Intein Possesses a Novel ATP-dependent Site-specific Double-stranded DNA Endonuclease Activity. Journal of Biological Chemistry, 2002, 277, 16257-16264.	3.4	16
63	Dynamics and Regulation of RecA Polymerization and De-Polymerization on Double-Stranded DNA. PLoS ONE, 2013, 8, e66712.	2.5	16
64	Mechanical force antagonizes the inhibitory effects of RecX on RecA filament formation in Mycobacterium tuberculosis. Nucleic Acids Research, 2014, 42, 11992-11999.	14.5	16
65	RecA protein promoted homologous pairing in vitro. Pairing between linear duplex DNA bound to HU Protein (nucleosome cores) and nucleoprotein filaments of recA protein-single-stranded DNA. Journal of Biological Chemistry, 1989, 264, 17395-400.	3.4	15
66	Functional Analysis of DNA Replication Fork Reversal Catalyzed by Mycobacterium tuberculosis RuvAB Proteins. Journal of Biological Chemistry, 2012, 287, 1345-1360.	3.4	14
67	Single-Molecule DNA Analysis Reveals That Yeast Hop1 Protein Promotes DNA Folding and Synapsis: Implications for Condensation of Meiotic Chromosomes. ACS Nano, 2012, 6, 10658-10666.	14.6	14
68	DNA-induced conformational changes in RecA protein. Evidence for structural heterogeneity among nucleoprotein filaments and implications for homologous pairing. Journal of Biological Chemistry, 1993, 268, 26162-70.	3.4	14
69	X-ray and molecular-dynamics studies onMycobacterium lepraesingle-stranded DNA-binding protein and comparison with other eubacterial SSB structures. Acta Crystallographica Section D: Biological Crystallography, 2010, 66, 1048-1058.	2.5	13
70	Mycobacterium tuberculosis RecG Protein but Not RuvAB or RecA Protein Is Efficient at Remodeling the Stalled Replication Forks. Journal of Biological Chemistry, 2015, 290, 24119-24139.	3.4	12
71	Structural Characterization of iâ€Motif Structure in the Human Acetylâ€CoA Carboxylaseâ€…1 Gene Promoters and Their Role in the Regulation of Gene Expression. ChemBioChem, 2018, 19, 1078-1087.	2.6	12
72	Functionally important movements in RecA molecules and filaments: studies involving mutation and environmental changes. Acta Crystallographica Section D: Biological Crystallography, 2008, 64, 1146-1157.	2.5	11

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73	Structural studies on Mycobacterium tuberculosis RecA: Molecular plasticity and interspecies variability. Journal of Biosciences, 2015, 40, 13-30.	1.1	11
74	Discovery and Structural Characterization of G-quadruplex DNA in Human Acetyl-CoA Carboxylase Gene Promoters: Its Role in Transcriptional Regulation and as a Therapeutic Target for Human Disease. Journal of Medicinal Chemistry, 2016, 59, 5035-5050.	6.4	11
75	Mycobacterium tuberculosis RecA intein, a LAGLIDADG homing endonuclease, displays Mn2+ and DNA-dependent ATPase activity. Nucleic Acids Research, 2003, 31, 4184-4191.	14.5	10
76	Meiosis-specific yeast Hop1 protein promotes pairing of double-stranded DNA helices via G/C isochores. Biochemical and Biophysical Research Communications, 2005, 336, 934-941.	2.1	10
77	Molecular Dissection of Mycobacterium tuberculosis Integration Host Factor Reveals Novel Insights into the Mode of DNA Binding and Nucleoid Compaction. Biochemistry, 2015, 54, 4142-4160.	2.5	10
78	Mycobacterium tuberculosis RuvX is a Holliday junction resolvase formed by dimerisation of the monomeric YqgF nuclease domain. Molecular Microbiology, 2016, 100, 656-674.	2.5	10
79	Molecular Mechanism Underlying ATP-Induced Conformational Changes in the Nucleoprotein Filament of Mycobacterium smegmatis RecA. Biochemistry, 2016, 55, 1850-1862.	2.5	9
80	UvrA and UvrC subunits of the MycobacteriumÂtuberculosis UvrABC excinuclease interact independently of UvrB and DNA. FEBS Letters, 2020, 594, 851-863.	2.8	9
81	The Anionic Phospholipids in the Plasma Membrane Play an Important Role in Regulating the Biochemical Properties and Biological Functions of RecA Proteins. Biochemistry, 2019, 58, 1295-1310.	2.5	8
82	Cloning, overexpression and purification of functionally active Saccharomyces cerevisiae Hop1 protein from Escherichia coli. Protein Expression and Purification, 2010, 72, 42-47.	1.3	7
83	The RecA Intein of Mycobacterium tuberculosisPromotes Cleavage of Ectopic DNA Sites. Journal of Biological Chemistry, 2002, 277, 40352-40361.	3.4	6
84	Characterization of Mycobacterium leprae RecA Intein, a LAGLIDADG Homing Endonuclease, Reveals a Unique Mode of DNA Binding, Helical Distortion, and Cleavage Compared with a Canonical LAGLIDADG Homing Endonuclease. Journal of Biological Chemistry, 2009, 284, 25912-25928.	3.4	6
85	Elucidating the functional role of Mycobacterium smegmatis recX in stress response. Scientific Reports, 2019, 9, 10912.	3.3	6
86	Deciphering the essentiality and function of SxSx motif in Mycobacterium tuberculosis UvrB. Biochimie, 2020, 170, 94-105.	2.6	6
87	Novel insights into ATP-Stimulated Cleavage of branched DNA and RNA Substrates through Structure-Guided Studies of the Holliday Junction Resolvase RuvX. Journal of Molecular Biology, 2021, 433, 167014.	4.2	6
88	Phage lambda beta protein, a component of general recombination, is associated with host ribosomal S1 protein. IUBMB Life, 1993, 31, 1-11.	0.1	6
89	Recognition and alignment of homologous DNA sequences between minichromosomes and single-stranded DNA promoted by RecA protein. Molecular Genetics and Genomics, 1995, 249, 336-348.	2.4	5
90	Crystallization and preliminary X-ray studies of the C-terminal domain ofMycobacterium tuberculosisLexA. Acta Crystallographica Section F: Structural Biology Communications, 2010, 66, 1093-1095.	0.7	5

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91	Genetic and biochemical evidences reveal novel insights into the mechanism underlying Saccharomyces cerevisiae Sae2-mediated abrogation of DNA replication stress. Journal of Biosciences, 2016, 41, 615-641.	1.1	5
92	Saccharomyces cerevisiae Red1 protein exhibits nonhomologous DNA endâ€“joining activity and potentiates Hop1-promoted pairing of double-stranded DNA. Journal of Biological Chemistry, 2017, 292, 13853-13866.	3.4	5
93	Targeting G-quadruplex DNA with synthetic dendritic peptide: modulation of the proliferation of human cancer cells. RSC Advances, 2020, 10, 26388-26396.	3.6	5
94	The intrinsic ATPase activity of MycobacteriumÂtuberculosis UvrC is crucial for its damageâ€specific DNA incision function. FEBS Journal, 2021, 288, 1179-1200.	4.7	5
95	Functional roles of Nâ€terminal and Câ€terminal domains in the overall activity of a novel singleâ€stranded DNA binding protein ofDeinococcus radiodurans. FEBS Open Bio, 2015, 5, 378-387.	2.3	4
96	Molecular and Functional Characterization of RecD, a Novel Member of the SF1 Family of Helicases, from Mycobacterium tuberculosis. Journal of Biological Chemistry, 2015, 290, 11948-11968.	3.4	4
97	Defining the Functionally Important Domain and Amino Acid Residues in Mycobacterium tuberculosis Integration Host Factor for Genome Stability, DNA Binding, and Integrative Recombination. Journal of Bacteriology, 2017, 199, .	2.2	4
98	The extended N-terminus of Mycobacterium smegmatis RecX potentiates its ability to antagonize RecA functions. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2020, 1868, 140468.	2.3	4
99	Interrogating the substrate specificity landscape of UvrC reveals novel insights into its non-canonical function. Biophysical Journal, 2022, 121, 3103-3125.	0.5	4
100	Binding and regulatory properties of phosphofructokinase from swine kidney. Molecular and Cellular Biochemistry, 1984, 63, 21-32.	3.1	3
101	Mutational analysis of activeâ€site residues in the Mycobacterium leprae RecA intein, a LAGLIDADG homing endonuclease: Asp¹²² and Asp¹⁹³ are crucial to the doubleâ€stranded DNA cleavage activity whereas Asp²¹⁸ is not. Protein Science, 2010, 19, 111-123.	7.6	3
102	Evidence for functional and regulatory cross-talk between Wnt/Î²-catenin signalling and Mre11-Rad50â€“Nbs1 complex in the repair of cisplatin-induced DNA cross-links. Oncotarget, 2020, 11, 4028-4044.	1.8	3
103	Homologous pairing between nucleosome cores on a linear duplex DNA and nucleoprotein filaments of RecA protein-single stranded DNA. Biochimie, 1991, 73, 187-190.	2.6	2
104	Effects of nucleosomes and anti-tumor drugs on the catalytic activity of type II DNA topoisomerase from rat testis. Biochemical Pharmacology, 1997, 53, 1229-1238.	4.4	2
105	Substrate specificity plays an important role in uncoupling the catalytic and scaffolding activities of rat testis DNA topoisomerase IIÎ±. Journal of Biomolecular Structure and Dynamics, 2001, 18, 749-760.	3.5	2
106	Molecular Dissection of Mycobacterium tuberculosis Integration Host Factor Reveals Novel Insights into the Mode of DNA Binding and Nucleoid Compaction. Journal of Biological Chemistry, 2014, 289, 34325-34340.	3.4	2
107	Nucleotide Excision Repair Pathway in Mycobacteria. , 2019, , 275-300.		2
108	Mycobacterium tuberculosis RuvX is a Holliday junction resolvase formed by dimerisation of the monomeric YqgF nuclease domain. Molecular Microbiology, 2016, 101, 182-182.	2.5	1

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109	Nanoâ€Assemblies of a Synthetic Peptide: Illuminating Aggregation Potential, Amyloidogenicity and Cytotoxicity. ChemistrySelect, 2021, 6, 11103-11107.	1.5	1
110	Dual targeting ofSaccharomyces cerevisiaePso2 to mitochondria and the nucleus, and its functional relevance in the repair of DNA interstrand crosslinks. G3: Genes, Genomes, Genetics, 2022, 12, .	1.8	1