Umesh Varshney

List of Publications by Year
in descending order

113 papers	2,492 citations	186265 28 h-index	254184 43 g-index
116 all docs	116 docs citations	116 times ranked	2452 citing authors

#	Article	IF	Citations
1	Role of the nucleotide excision repair pathway proteins (UvrB and UvrD2) in recycling UdgB, a base excision repair enzyme in Mycobacterium smegmatis. DNA Repair, 2022, 113, 103316.	2.8	1
2	Systematic evolution of initiation factor 3 and the ribosomal protein uS12 optimizes <i>Escherichia coli</i> growth with an unconventional initiator tRNA. Molecular Microbiology, 2022, 117, 462-479.	2.5	6
3	An Alternative Role of RluD in the Fidelity of Translation Initiation in Escherichia coli. Journal of Molecular Biology, 2022, 434, 167588.	4.2	4
4	Regulation of translation by one-carbon metabolism in bacteria and eukaryotic organelles. Journal of Biological Chemistry, 2021, 296, 100088.	3.4	22
5	A mutation in the ribosomal protein uS12 reveals novel functions of its universally conserved PNSA loop. Molecular Microbiology, 2021, 115, 1292-1308.	2.5	6
6	Compromised base excision repair pathway in Mycobacterium tuberculosis imparts superior adaptability in the host. PLoS Pathogens, 2021, 17, e1009452.	4.7	16
7	Use of a molecular beacon based fluorescent method for assaying uracil DNA glycosylase (Ung) activity and inhibitor screening. Biochemistry and Biophysics Reports, 2021, 26, 100954.	1.3	7
8	G4 DNA present at human telomeric DNA contributes toward reduced sensitivity to Î^3-radiation induced oxidative damage, but not bulky adduct formation. International Journal of Radiation Biology, 2021, 97, 1166-1180.	1.8	3
9	Translation initiation in mammalian mitochondria- a prokaryotic perspective. RNA Biology, 2020, 17, 165-175.	3.1	12
10	Metabolic Flux of N10-Formyltetrahydrofolate Plays a Critical Role in the Fidelity of Translation Initiation in Escherichia coli. Journal of Molecular Biology, 2020, 432, 5473-5488.	4.2	5
11	Monomeric NADH-Oxidizing Methylenetetrahydrofolate Reductases from Mycobacterium smegmatis Lack Flavin Coenzyme. Journal of Bacteriology, 2020, 202, .	2.2	12
12	Base excision repair pathways of bacteria: new promise for an old problem. Future Medicinal Chemistry, 2020, 12, 339-355.	2.3	8
13	Hijacking Translation Initiation for Synthetic Biology. ChemBioChem, 2020, 21, 1387-1396.	2.6	18
14	Diverse roles of nucleoside diphosphate kinase in genome stability and growth fitness. Current Genetics, 2020, 66, 671-682.	1.7	12
15	Plasticity, ligand conformation and enzyme action of <i>Mycobacterium smegmatis</i> MutT1. Acta Crystallographica Section D: Structural Biology, 2020, 76, 982-992.	2.3	0
16	SIRT6 transcriptionally regulates global protein synthesis through transcription factor Sp1 independent of its deacetylase activity. Nucleic Acids Research, 2019, 47, 9115-9131.	14.5	36
17	Development of mCherry tagged UdgX as a highly sensitive molecular probe for specific detection of uracils in DNA. Biochemical and Biophysical Research Communications, 2019, 518, 38-43.	2.1	10
18	Covalent binding of uracil DNA glycosylase UdgX to abasic DNA upon uracil excision. Nature Chemical Biology, 2019, 15, 607-614.	8.0	34

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19	Nucleoside Diphosphate Kinase Escalates A-to-C Mutations in MutT-Deficient Strains of Escherichia coli. Journal of Bacteriology, 2019, 202, .	2.2	5
20	Rapid formylation of the cellular initiator tRNA population makes a crucial contribution to its exclusive participation at the step of initiation. Nucleic Acids Research, 2019, 47, 1908-1919.	14.5	7
21	Nudix hydrolases with Coenzyme A (CoA) and acyl-CoA pyrophosphatase activities confer growth advantage to Mycobacterium smegmatis. Microbiology (United Kingdom), 2019, 165, 1219-1232.	1.8	0
22	Species-Specific Interactions of Arr with RplK Mediate Stringent Response in Bacteria. Journal of Bacteriology, 2018, 200, .	2.2	7
23	Distinct properties of a hypoxia specific paralog of single stranded DNA binding (SSB) protein in mycobacteria. Tuberculosis, 2018, 108, 16-25.	1.9	24
24	Coevolution of the translational machinery optimizes initiation with unusual initiator tRNAs and initiation codons in mycoplasmas. RNA Biology, 2018, 15, 70-80.	3.1	6
25	Fidelity of translation in the presence of mammalian mitochondrial initiation factor 3. Mitochondrion, 2018, 39, 1-8.	3.4	8
26	Sustenance of Escherichia coli on a single tRNAMet. Nucleic Acids Research, 2018, 46, 11566-11574.	14.5	7
27	Structural insights into the specificity and catalytic mechanism of mycobacterial nucleotide pool sanitizing enzyme MutT2. Journal of Structural Biology, 2018, 204, 449-456.	2.8	1
28	Rewiring of one carbon metabolism in Salmonella serves as an excellent live vaccine against systemic salmonellosis. Vaccine, 2018, 36, 7715-7727.	3.8	5
29	Development of Assay Systems for Amber Codon Decoding at the Steps of Initiation and Elongation in Mycobacteria. Journal of Bacteriology, 2018, 200, .	2.2	2
30	Antimicrobial activity of fusidic acid in Escherichia coli is dependent on the relative levels of ribosome recycling factor and elongation factor G. FEMS Microbiology Letters, 2018, 365, .	1.8	3
31	Utilisation of 10-formyldihydrofolate as substrate by dihydrofolate reductase (DHFR) and 5-aminoimidazole-4-carboxamide ribonucleotide (AICAR) tranformylase/IMP cyclohydrolase (PurH) in Escherichia coli. Microbiology (United Kingdom), 2018, 164, 982-991.	1.8	5
32	Two highly conserved features of bacterial initiator tRNAs license them to pass through distinct checkpoints in translation initiation. Nucleic Acids Research, 2017, 45, gkw854.	14.5	15
33	<scp>T</scp>he IDL of <i>E. coli</i> SSB links ssDNA and protein binding by mediating proteinâ€“protein interactions. Protein Science, 2017, 26, 227-241.	7.6	41
34	Uracil DNA glycosylase (UDG) activities in Bradyrhizobium diazoefficiens: characterization of a new class of UDG with broad substrate specificity. Nucleic Acids Research, 2017, 45, 5863-5876.	14.5	12
35	Contributions of the N- and C-Terminal Domains of Initiation Factor 3 to Its Functions in the Fidelity of Initiation and Antiassociation of the Ribosomal Subunits. Journal of Bacteriology, 2017, 199, .	2.2	17
36	An evolutionarily conserved element in initiator tRNAs prompts ultimate steps in ribosome maturation. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E6126-E6134.	7.1	32

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37	Structure of the second Single Stranded DNA Binding protein (SSBb) from Mycobacterium smegmatis. Journal of Structural Biology, 2016, 196, 448-454.	2.8	6
38	The Termination Phase in Protein Synthesis is not Obligatorily Followed by the RRF/EF-G-Dependent Recycling Phase. Journal of Molecular Biology, 2016, 428, 3577-3587.	4.2	10
39	Evolution of initiator tRNAs and selection of methionine as the initiating amino acid. RNA Biology, 2016, 13, 810-819.	3.1	22
40	Physiological role of FolD (methylenetetrahydrofolate dehydrogenase), FchA (methenyltetrahydrofolate cyclohydrolase) and Fhs (formyltetrahydrofolate synthetase) from Clostridium perfringens in a heterologous model of Escherichia coli. Microbiology (United Kingdom), 2016, 162, 145-155.	1.8	3
41	Use of Mycobacterium smegmatis Deficient in ADP-Ribosyltransferase as Surrogate for Mycobacterium tuberculosis in Drug Testing and Mutation Analysis. PLoS ONE, 2015, 10, e0122076.	2.5	39
42	Impact of Mutating the Key Residues of a Bifunctional 5,10-Methylenetetrahydrofolate Dehydrogenase-Cyclohydrolase from <i>Escherichia coli</i> on Its Activities. Biochemistry, 2015, 54, 3504-3513.	2.5	12
43	Is the cellular initiation of translation an exclusive property of the initiator tRNAs?. RNA Biology, 2015, 12, 675-680.	3.1	5
44	A unique uracil-DNA binding protein of the uracil DNA glycosylase superfamily. Nucleic Acids Research, 2015, 43, 8452-8463.	14.5	34
45	One-Carbon Metabolic Pathway Rewiring in Escherichia coli Reveals an Evolutionary Advantage of 10-Formyltetrahydrofolate Synthetase (Fhs) in Survival under Hypoxia. Journal of Bacteriology, 2015, 197, 717-726.	2.2	40
46	Simultaneous presence of<i>fhs</i>and<i>purT</i>genes is disadvantageous for the fitness of<i>Escherichia coli</i>growth. FEMS Microbiology Letters, 2015, 362, fnv101.	1.8	3
47	A Genetic Analysis of the Functional Interactions within Mycobacterium tuberculosis Single-Stranded DNA Binding Protein. PLoS ONE, 2014, 9, e94669.	2.5	3
48	How Many Initiator tRNA Genes Does Escherichia coli Need?. Journal of Bacteriology, 2014, 196, 2607-2615.	2.2	19
49	An extended Shineâ€"Dalgarno sequence in mRNA functionally bypasses a vital defect in initiator tRNA. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E4224-33.	7.1	13
50	Hypersensitivity of hypoxia grown Mycobacterium smegmatis to DNA damaging agents: Implications of the DNA repair deficiencies in attenuation of mycobacteria. Mechanisms of Ageing and Development, 2013, 134, 516-522.	4.6	7
51	Role of the Ribosomal P-Site Elements of m ² G966, m ⁵ C967, and the S9 C-Terminal Tail in Maintenance of the Reading Frame during Translational Elongation in Escherichia coli. Journal of Bacteriology, 2013, 195, 3524-3530.	2.2	17
52	Development of a New Generation of Vectors for Gene Expression, Gene Replacement, and Protein-Protein Interaction Studies in Mycobacteria. Applied and Environmental Microbiology, 2013, 79, 1718-1729.	3.1	78
53	Distinctive contributions of the ribosomal P-site elements m2G966, m5C967 and the C-terminal tail of the S9 protein in the fidelity of initiation of translation in Escherichia coli. Nucleic Acids Research, 2013, 41, 4963-4975.	14.5	24
54	Mycobacterium tuberculosis MutT1 (Rv2985) and ADPRase (Rv1700) Proteins Constitute a Two-stage Mechanism of 8-Oxo-dGTP and 8-Oxo-GTP Detoxification and Adenosine to Cytidine Mutation Avoidance. Journal of Biological Chemistry, 2013, 288, 11252-11262.	3.4	28

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55	Initiation with Elongator tRNAs. Journal of Bacteriology, 2013, 195, 4202-4209.	2.2	19
56	Biochemical Properties of MutT2 Proteins from Mycobacterium tuberculosis and M. smegmatis and Their Contrasting Antimutator Roles in Escherichia coli. Journal of Bacteriology, 2013, 195, 1552-1560.	2.2	27
57	Unconventional initiator tRNAs sustain <i>Escherichia coli</i>. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 13058-13063.	7.1	25
58	Distinct mechanisms of DNA repair in mycobacteria and their implications in attenuation of the pathogen growth. Mechanisms of Ageing and Development, 2012, 133, 138-146.	4.6	27
59	Uracil excision repair in Mycobacterium tuberculosis cell-free extracts. Tuberculosis, 2011, 91, 212-218.	1.9	15
60	Base excision and nucleotide excision repair pathways in mycobacteria. Tuberculosis, 2011, 91, 533-543.	1.9	33
61	Crucial contribution of the multiple copies of the initiator tRNA genes in the fidelity of tRNA fMet selection on the ribosomal P-site in Escherichia coli. Nucleic Acids Research, 2011, 39, 202-212.	14.5	226
62	Chimeras of Escherichia coli and Mycobacterium tuberculosis Single-Stranded DNA Binding Proteins: Characterization and Function in Escherichia coli. PLoS ONE, 2011, 6, e27216.	2.5	5
63	The ribosome and the 2009 Nobel Prize in Chemistry. Resonance, 2010, 15, 526-537.	0.3	2
64	Structure of uracil-DNA glycosylase fromMycobacterium tuberculosis: insights into interactions with ligands. Acta Crystallographica Section F: Structural Biology Communications, 2010, 66, 887-892.	0.7	8
65	Detrimental Effects of Hypoxia-Specific Expression of Uracil DNA Glycosylase (Ung) in <i>Mycobacterium smegmatis</i>. Journal of Bacteriology, 2010, 192, 6439-6446.	2.2	17
66	Synergistic effects of UdgB and Ung in mutation prevention and protection against commonly encountered DNA damaging agents in Mycobacterium smegmatis. Microbiology (United Kingdom), 2010, 156, 940-949.	1.8	30
67	A distinct physiological role of MutY in mutation prevention in mycobacteria. Microbiology (United) Tj ETQq1 1 0.784314 rgBT /Overl	1.8	34
68	Analysis of the impact of a uracil DNA glycosylase attenuated in AP-DNA binding in maintenance of the genomic integrity in Escherichia coli. Nucleic Acids Research, 2010, 38, 2291-2301.	14.5	9
69	Impact of rRNA methylations on ribosome recycling and fidelity of initiation in <i>Escherichia coli</i>. Molecular Microbiology, 2009, 72, 795-808.	2.5	30
70	Unique features of the structure and interactions of mycobacterial uracil-DNA glycosylase: structure of a complex of the<i>Mycobacterium tuberculosis</i>enzyme in comparison with those from other sources. Acta Crystallographica Section D: Biological Crystallography, 2008, 64, 551-560.	2.5	43
71	Role of 16S ribosomal RNA methylations in translation initiation in Escherichia coli. EMBO Journal, 2008, 27, 840-851.	7.8	64
72	Recycling of Ribosomal Complexes Stalled at the Step of Elongation in Escherichia coli. Journal of Molecular Biology, 2008, 380, 451-464.	4.2	37

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73	A Single Mammalian Mitochondrial Translation Initiation Factor Functionally Replaces Two Bacterial Factors. Molecular Cell, 2008, 29, 180-190.	9.7	90
74	Important role of the nucleotide excision repair pathway in Mycobacterium smegmatis in conferring protection against commonly encountered DNA-damaging agents. Microbiology (United Kingdom), 2008, 154, 2776-2785.	1.8	38
75	Substrate specificities and functional characterization of a thermo-tolerant uracil DNA glycosylase (UdgB) from Mycobacterium tuberculosis. DNA Repair, 2007, 6, 1517-1528.	2.8	37
76	Diet-dependent depletion of queuosine in tRNAs in Caenorhabditis elegans does not lead to a developmental block. Journal of Biosciences, 2007, 32, 747-754.	1.1	13
77	Role of the insertion region in mammalian mitochondrial initiation factor 2 in translational initiation. FASEB Journal, 2007, 21, A280.	0.5	0
78	Overexpression, purification, crystallization and preliminary X-ray analysis of uracilN-glycosylase fromMycobacterium tuberculosisin complex with a proteinaceous inhibitor. Acta Crystallographica Section F: Structural Biology Communications, 2006, 62, 1231-1234.	0.7	5
79	Mechanism of recycling of post-termination ribosomal complexes in eubacteria: A new role of initiation factor 3. Journal of Biosciences, 2006, 31, 281-289.	1.1	16
80	The history that brought it all alive. Journal of Biosciences, 2006, 31, 437-438.	1.1	3
81	Peptidyl-tRNA hydrolase and its critical role in protein biosynthesis. Microbiology (United Kingdom), 2006, 152, 2191-2195.	1.8	89
82	Genetic Analysis Identifies a Function for the queC (ybaX) Gene Product at an Initial Step in the Queuosine Biosynthetic Pathway in Escherichia coli. Journal of Bacteriology, 2005, 187, 6893-6901.	2.2	38
83	Acquisition of a stable mutation in metY allows efficient initiation from an amber codon in Escherichia coli. Microbiology (United Kingdom), 2005, 151, 1741-1750.	1.8	6
84	A physiological connection between tmRNA and peptidyl-tRNA hydrolase functions in Escherichia coli. Nucleic Acids Research, 2004, 32, 6028-6037.	14.5	68
85	Mycobacterium tuberculosis and Escherichia coli nucleoside diphosphate kinases lack multifunctional activities to process uracil containing DNA. DNA Repair, 2004, 3, 1483-1492.	2.8	14
86	Use of sequence microdivergence in mycobacterial ortholog to analyze contributions of the water-activating loop histidine of Escherichia coli uracilâ€“DNA glycosylase in reactant binding and catalysis. Biochemical and Biophysical Research Communications, 2004, 320, 893-899.	2.1	2
87	Substitutions at tyrosine 66 of Escherichia coli uracil DNA glycosylase lead to characterization of an efficient enzyme that is recalcitrant to product inhibition. Nucleic Acids Research, 2003, 31, 7216-7226.	14.5	5
88	Common Location of Determinants in Initiator Transfer RNAs for Initiator-Elongator Discrimination in Bacteria and in Eukaryotes. Journal of Biological Chemistry, 2003, 278, 17672-17679.	3.4	19
89	Complexes of the uracil-DNA glycosylase inhibitor protein, Ugi, with Mycobacterium smegmatis and Mycobacterium tuberculosis uracil-DNA glycosylases. Microbiology (United Kingdom), 2003, 149, 1647-1658.	1.8	20
90	Importance of Uracil DNA Glycosylase in Pseudomonas aeruginosa and Mycobacterium smegmatis, G+C-rich Bacteria, in Mutation Prevention, Tolerance to Acidified Nitrite, and Endurance in Mouse Macrophages. Journal of Biological Chemistry, 2003, 278, 24350-24358.	3.4	62

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91	An unexpected absence of queuosine modification in the tRNAs of an Escherichia coli B strain. Microbiology (United Kingdom), 2002, 148, 3779-3787.	1.8	14
92	Effects of mutations at tyrosine 66 and asparagine 123 in the active site pocket of Escherichia coli uracil DNA glycosylase on uracil excision from synthetic DNA oligomers: evidence for the occurrence of long-range interactions between the enzyme and substrate. Nucleic Acids Research, 2002, 30, 3086-3095.	14.5	23
93	Biochemical Properties of Single-Stranded DNA-Binding Protein from Mycobacterium smegmatis, a Fast-growing Mycobacterium and Its Physical and Functional Interaction with Uracil DNA Glycosylases. Journal of Molecular Biology, 2002, 318, 1251-1264.	4.2	35
94	Mutational Analysis of the Uracil DNA Glycosylase Inhibitor Protein and Its Interaction with Escherichia coli Uracil DNA Glycosylase. Journal of Molecular Biology, 2002, 321, 579-590.	4.2	15
95	Distamycin Analogues without Leading Amide at Their N-Termini â˜’ Comparative Binding Properties to AT- and GC-Rich DNA Sequences. European Journal of Organic Chemistry, 2002, 2002, 3604-3615.	2.4	32
96	Analysis of the initiator tRNA genes from a slow- and a fast-growing mycobacterium. Archives of Microbiology, 2002, 178, 288-296.	2.2	6
97	Characterization of Mycobacterium tuberculosis ribosome recycling factor (RRF) and a mutant lacking six amino acids from the C-terminal end reveals that the C-terminal residues are important for its occupancy on the ribosome. Microbiology (United Kingdom), 2002, 148, 3913-3920.	1.8	22
98	Contrasting effects of mutating active site residues, aspartic acid 64 and histidine 187 of Escherichia coli uracil-DNA glycosylase on uracil excision and interaction with an inhibitor protein. Indian Journal of Biochemistry and Biophysics, 2002, 39, 312-7.	0.0	1
99	Linear free-energy model description of the conformational stability of uracil-DNA glycosylase inhibitor. FEBS Journal, 2001, 261, 610-617.	0.2	3
100	Unusual DNA Binding Exhibited by Synthetic Distamycin Analogues Lacking the<i>N</i>-terminal Amide Unit under<i>High Salt Conditions</i>. Journal of Biomolecular Structure and Dynamics, 2001, 18, 858-871.	3.5	5
101	The Mere Lack of rT Modification in Initiator tRNA Does Not Facilitate Formylation-Independent Initiation in Escherichia coli. Journal of Bacteriology, 2001, 183, 7397-7402.	2.2	4
102	The Role of Leucine 191 of Escherichia coliUracil DNA Glycosylase in the Formation of a Highly Stable Complex with the Substrate Mimic, Ugi, and in Uracil Excision from the Synthetic Substrates. Journal of Biological Chemistry, 2001, 276, 17324-17331.	3.4	38
103	Chimeras between Single-stranded DNA-binding Proteins fromEscherichia coli and Mycobacterium tuberculosisReveal That Their C-terminal Domains Interact with Uracil DNA Glycosylases. Journal of Biological Chemistry, 2001, 276, 16992-16997.	3.4	69
104	Structural basis for uracil DNA glycosylase interaction with uracil: NMR study. Nucleic Acids Research, 2000, 28, 1906-1912.	14.5	15
105	The Fate of the Initiator tRNAs Is Sensitive to the Critical Balance between Interacting Proteins. Journal of Biological Chemistry, 2000, 275, 20361-20367.	3.4	17
106	Differential effects of single-stranded DNA binding proteins (SSBs) on uracil DNA glycosylases (UDGs) from Escherichia coli and mycobacteria. Nucleic Acids Research, 1999, 27, 3487-3492.	14.5	27
107	Structural characterisation of a uracil containing hairpin DNA by NMR and molecular dynamics. Nucleic Acids Research, 1999, 27, 3938-3944.	14.5	12
108	Cloning, over-expression and biochemical characterization of the single-stranded DNA binding protein from Mycobacterium tuberculosis. FEBS Journal, 1999, 264, 591-598.	0.2	32

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109	Contributory presentations/posters. Journal of Biosciences, 1999, 24, 33-198.	1.1	0
110	Uracil DNA glycosylase from Mycobacterium smegmatis and its distinct biochemical properties. FEBS Journal, 1998, 256, 580-588.	0.2	31
111	Use of a Coupled Transcriptional System for Consistent Overexpression and Purification of UDGâ€“Ugi Complex and Ugi fromEscherichia coli. Protein Expression and Purification, 1998, 13, 155-162.	1.3	18
112	Important Role of the Amino Acid Attached to tRNA in Formylation and in Initiation of Protein Synthesis in Escherichia coli. Journal of Biological Chemistry, 1996, 271, 1022-1028.	3.4	24
113	Specificities and kinetics of uracil excision from uracil-containing DNA oligomers by Escherichia coli uracil DNA glycosylase. Biochemistry, 1991, 30, 4055-4061.	2.5	101