Mohan Madan Babu

List of Publications by Year in descending order

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149 papers 23,052 citations

63 h-index 9103 144 g-index

163 all docs

163 docs citations

163 times ranked 31895 citing authors

#	Article	IF	Citations
1	Integrated Genomic Analysis Identifies <i>UBTF</i> Tandem Duplications as a Recurrent Lesion in Pediatric Acute Myeloid Leukemia. Blood Cancer Discovery, 2022, 3, 194-207.	5.0	38
2	CCL22 mutations drive natural killer cell lymphoproliferative disease by deregulating microenvironmental crosstalk. Nature Genetics, 2022, 54, 637-648.	21.4	13
3	Discovery and Genetic Code Expansion of a Polyethylene Terephthalate (PET) Hydrolase from the Human Saliva Metagenome for the Degradation and Bioâ€Functionalization of PET. Angewandte Chemie - International Edition, 2022, 61, .	13.8	24
4	Conformational selection guides β-arrestin recruitment at a biased G protein–coupled receptor. Science, 2022, 377, 222-228.	12.6	16
5	Biophysicists' outstanding response to Covid-19. Biophysical Journal, 2021, 120, E1-E2.	0.5	2
6	Human MC4R variants affect endocytosis, trafficking and dimerization revealing multiple cellular mechanisms involved in weight regulation. Cell Reports, 2021, 34, 108862.	6.4	37
7	Biological impact of mutually exclusive exon switching. PLoS Computational Biology, 2021, 17, e1008708.	3.2	12
8	A community effort to bring structure to disorder. Nature Methods, 2021, 18, 454-455.	19.0	19
9	Lipolysis drives expression of the constitutively active receptor GPR3 to induce adipose thermogenesis. Cell, 2021, 184, 3502-3518.e33.	28.9	68
10	Biophysicists' continued outstanding response to COVID-19. Biophysical Journal, 2021, 120, E1.	0.5	2
11	Evolution of fold switching in a metamorphic protein. Science, 2021, 371, 86-90.	12.6	59
12	The chemotherapeutic CX-5461 primarily targets TOP2B and exhibits selective activity in high-risk neuroblastoma. Nature Communications, 2021, 12, 6468.	12.8	35
13	GPCR activation mechanisms across classes and macro/microscales. Nature Structural and Molecular Biology, 2021, 28, 879-888.	8.2	98
14	Pathway perturbations in signaling networks: Linking genotype to phenotype. Seminars in Cell and Developmental Biology, 2020, 99, 3-11.	5.0	13
15	Disorderâ€toâ€order transition in PE–PPE proteins of <i>MycobacteriumÂtuberculosis</i> augments the proâ€pathogen immune response. FEBS Open Bio, 2020, 10, 70-85.	2.3	33
16	Context-Specific Striatal Astrocyte Molecular Responses Are Phenotypically Exploitable. Neuron, 2020, 108, 1146-1162.e10.	8.1	73
17	Amino acid homorepeats in proteins. Nature Reviews Chemistry, 2020, 4, 420-434.	30.2	31
18	Combinatorial expression of GPCR isoforms affects signalling and drug responses. Nature, 2020, 587, 650-656.	27.8	87

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19	Molecular determinants underlying functional innovations of TBP and their impact on transcription initiation. Nature Communications, 2020, 11 , 2384.	12.8	17
20	Characterizing Interhelical Interactions of G-Protein Coupled Receptors with the Fragment Molecular Orbital Method. Journal of Chemical Theory and Computation, 2020, 16, 2814-2824.	5.3	13
21	A Global Map of G Protein Signaling Regulation by RGS Proteins. Cell, 2020, 183, 503-521.e19.	28.9	82
22	Combinatorial multivalent interactions drive cooperative assembly of the COPII coat. Journal of Cell Biology, 2020, 219, .	5.2	20
23	Structural and functional characterization of G protein–coupled receptors with deep mutational scanning. ELife, 2020, 9, .	6.0	91
24	Molecular Signatures of Fusion Proteins in Cancer. ACS Pharmacology and Translational Science, 2019, 2, 122-133.	4.9	20
25	The fitness cost and benefit of phaseâ€separated protein deposits. Molecular Systems Biology, 2019, 15, e8075.	7.2	10
26	A conserved molecular switch in Class F receptors regulates receptor activation and pathway selection. Nature Communications, 2019, 10, 667.	12.8	56
27	An intrinsically disordered proteins community for ELIXIR. F1000Research, 2019, 8, 1753.	1.6	12
28	Common activation mechanism of class A GPCRs. ELife, 2019, 8, .	6.0	339
29	Enabling next generation systems biology: a conversation with M. Madan Babu. Molecular Systems Biology, 2019, 15, e9376.	7.2	1
30	Capturing dynamic protein interactions. Science, 2018, 359, 1105-1106.	12.6	42
31	Function and Regulation of Phase-Separated Biological Condensates. Biochemistry, 2018, 57, 2452-2461.	2.5	41
32	Cotranslational protein assembly imposes evolutionary constraints on homomeric proteins. Nature Structural and Molecular Biology, 2018, 25, 279-288.	8.2	43
33	Visualization and analysis of non-covalent contacts using the Protein Contacts Atlas. Nature Structural and Molecular Biology, 2018, 25, 185-194.	8.2	103
34	Pharmacogenomics of GPCR Drug Targets. Cell, 2018, 172, 41-54.e19.	28.9	464
35	From prioritisation to understanding: mechanistic predictions of variant effects. Molecular Systems Biology, 2018, 14, e8741.	7.2	2
36	Human Diseases from Gain-of-Function Mutations in Disordered Protein Regions. Cell, 2018, 175, 40-42.	28.9	21

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37	Cells alter their tRNA abundance to selectively regulate protein synthesis during stress conditions. Science Signaling, $2018,11,.$	3.6	201
38	Highâ€throughput discovery of functional disordered regions: investigation of transactivation domains. Molecular Systems Biology, 2018, 14, e8190.	7.2	138
39	Molecular Deconvolution Platform to Establish Disease Mechanisms by Surveying GPCR Signaling. Cell Reports, 2018, 24, 557-568.e5.	6.4	12
40	Mechanisms of signalling and biased agonism in G protein-coupled receptors. Nature Reviews Molecular Cell Biology, 2018, 19, 638-653.	37.0	457
41	Molecular mechanism of modulating arrestin conformation by GPCR phosphorylation. Nature Structural and Molecular Biology, 2018, 25, 538-545.	8.2	87
42	Intrinsically Disordered Proteins Adaptively Reorganize Cellular Matter During Stress. Trends in Biochemical Sciences, 2017, 42, 410-412.	7.5	24
43	Selectivity determinants of GPCR–G-protein binding. Nature, 2017, 545, 317-322.	27.8	297
44	Simultaneous quantification of protein order and disorder. Nature Chemical Biology, 2017, 13, 339-342.	8.0	113
45	Revealing the Determinants of Widespread Alternative Splicing Perturbation in Cancer. Cell Reports, 2017, 21, 798-812.	6.4	51
46	Constraints and consequences of the emergence of amino acid repeats in eukaryotic proteins. Nature Structural and Molecular Biology, 2017, 24, 765-777.	8.2	53
47	Conserved Sequence Preferences Contribute to Substrate Recognition by the Proteasome. Journal of Biological Chemistry, 2016, 291, 14526-14539.	3.4	56
48	Molecular Principles of Gene Fusion Mediated Rewiring of Protein Interaction Networks in Cancer. Molecular Cell, 2016, 63, 579-592.	9.7	63
49	Diverse activation pathways in class A GPCRs converge near the G-protein-coupling region. Nature, 2016, 536, 484-487.	27.8	245
50	The contribution of intrinsically disordered regions to protein function, cellular complexity, and human disease. Biochemical Society Transactions, 2016, 44, 1185-1200.	3.4	323
51	Affinity and competition for TBP are molecular determinants of gene expression noise. Nature Communications, 2016, 7, 10417.	12.8	55
52	Discovering and understanding oncogenic gene fusions through data intensive computational approaches. Nucleic Acids Research, 2016, 44, 4487-4503.	14.5	133
53	Sequence composition of disordered regions fine-tunes protein half-life. Nature Structural and Molecular Biology, 2015, 22, 214-221.	8.2	109
54	Universal allosteric mechanism for Gî± activation by GPCRs. Nature, 2015, 524, 173-179.	27.8	291

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55	Editorial overview: Linking protein sequence and structural changes to function in the era of next-generation sequencing. Current Opinion in Structural Biology, 2015, 32, viii-x.	5.7	5
56	Classifying pairs with trees for supervised biological network inference. Molecular BioSystems, 2015, 11, 2116-2125.	2.9	13
57	Proteome response at the edge of protein aggregation. Open Biology, 2015, 5, 140221.	3.6	9
58	How do disordered regions achieve comparable functions to structured domains?. Protein Science, 2015, 24, 909-922.	7.6	41
59	Probing Gαi1 protein activation at single–amino acid resolution. Nature Structural and Molecular Biology, 2015, 22, 686-694.	8.2	58
60	Variable Glutamine-Rich Repeats Modulate Transcription Factor Activity. Molecular Cell, 2015, 59, 615-627.	9.7	103
61	Structure and Evolution of Transcriptional Regulatory Networks. , 2014, , 1-16.		1
62	Intrinsically Disordered Segments Affect Protein Half-Life in the Cell and during Evolution. Cell Reports, 2014, 8, 1832-1844.	6.4	192
63	Optimizing membrane-protein biogenesis through nonoptimal-codon usage. Nature Structural and Molecular Biology, 2014, 21, 1023-1025.	8.2	11
64	p53 shapes genome-wide and cell type-specific changes in microRNA expression during the human DNA damage response. Cell Cycle, 2014, 13, 2572-2586.	2.6	18
65	Structural polymorphism in the N-terminal oligomerization domain of NPM1. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 4466-4471.	7.1	150
66	Controlling entropy to tune the functions of intrinsically disordered regions. Current Opinion in Structural Biology, 2014, 26, 62-72.	5.7	127
67	Asymmetric mRNA localization contributes to fidelity and sensitivity of spatially localized systems. Nature Structural and Molecular Biology, 2014, 21, 833-839.	8.2	57
68	Structured and disordered facets of the GPCR fold. Current Opinion in Structural Biology, 2014, 27, 129-137.	5.7	68
69	A Million Peptide Motifs for the Molecular Biologist. Molecular Cell, 2014, 55, 161-169.	9.7	429
70	Classification of Intrinsically Disordered Regions and Proteins. Chemical Reviews, 2014, 114, 6589-6631.	47.7	1,618
71	Promiscuity as a functional trait: intrinsically disordered regions as central players of interactomes. Biochemical Journal, 2013, 454, 361-369.	3.7	156
72	The Hidden Codes That Shape Protein Evolution. Science, 2013, 342, 1325-1326.	12.6	37

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73	A methodology to infer gene networks from spatial patterns of expression $\hat{a}\in$ an application to fluorescence in situ hybridization images. Molecular BioSystems, 2013, 9, 1926.	2.9	O
74	Molecular signatures of G-protein-coupled receptors. Nature, 2013, 494, 185-194.	27.8	1,298
75	Human Inositol Polyphosphate Multikinase Regulates Transcript-Selective Nuclear mRNA Export to Preserve Genome Integrity. Molecular Cell, 2013, 51, 737-750.	9.7	65
76	Alternative splicing of intrinsically disordered regions and rewiring of protein interactions. Current Opinion in Structural Biology, 2013, 23, 443-450.	5.7	166
77	What's in a name? Why these proteins are intrinsically disordered. Intrinsically Disordered Proteins, 2013, 1, e24157.	1.9	226
78	A complex network framework for unbiased statistical analyses of DNA–DNA contact maps. Nucleic Acids Research, 2013, 41, 701-710.	14.5	32
79	Reconfiguring Regulation. Science, 2012, 335, 1050-1051.	12.6	3
80	Versatility from Protein Disorder. Science, 2012, 337, 1460-1461.	12.6	206
81	Cellular Strategies for Regulating Functional and Nonfunctional Protein Aggregation. Cell Reports, 2012, 2, 1425-1437.	6.4	88
82	Dissecting ensemble networks in ES cell populations reveals micro-heterogeneity underlying pluripotency. Molecular BioSystems, 2012, 8, 744.	2.9	52
83	Tissue-Specific Splicing of Disordered Segments that Embed Binding Motifs Rewires Protein Interaction Networks. Molecular Cell, 2012, 46, 871-883.	9.7	344
84	Independence of Repressive Histone Marks and Chromatin Compaction during Senescent Heterochromatic Layer Formation. Molecular Cell, 2012, 47, 203-214.	9.7	258
85	DNA Sequence Preferences of Transcriptional Activators Correlate More Strongly than Repressors with Nucleosomes. Molecular Cell, 2012, 47, 183-192.	9.7	26
86	Evolutionary selection for protein aggregation. Biochemical Society Transactions, 2012, 40, 1032-1037.	3.4	32
87	Duel of the fates: the role of transcriptional circuits and noise in CD4+ cells. Current Opinion in Cell Biology, 2012, 24, 350-358.	5.4	14
88	Recognition Pliability Is Coupled to Structural Heterogeneity: A Calmodulin Intrinsically Disordered Binding Region Complex. Structure, 2012, 20, 522-533.	3.3	51
89	Interplay between gene expression noise and regulatory network architecture. Trends in Genetics, 2012, 28, 221-232.	6.7	235
90	Subunit-selective N-terminal domain associations organize the formation of AMPA receptor heteromers. EMBO Journal, 2011, 30, 959-971.	7.8	99

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91	Intrinsically disordered proteins: regulation and disease. Current Opinion in Structural Biology, 2011, 21, 432-440.	5 . 7	518
92	Evolution of eukaryotic genome architecture: Insights from the study of a rapidly evolving metazoan, <i>Oikopleura dioica</i> . BioEssays, 2011, 33, 592-601.	2.5	8
93	Structure, evolution and dynamics of transcriptional regulatory networks. Biochemical Society Transactions, 2010, 38, 1155-1178.	3.4	21
94	TAT-Pathway-Dependent Lipoproteins as a Niche-Based Adaptation in Prokaryotes. Journal of Molecular Evolution, 2010, 70, 359-370.	1.8	29
95	Genomic neighbourhood and the regulation of gene expression. Current Opinion in Cell Biology, 2010, 22, 326-333.	5.4	55
96	Scaling up synthetic gene circuits. Nature Nanotechnology, 2010, 5, 631-633.	31.5	3
97	Whole Genome Sequencing Highlights Genetic Changes Associated with Laboratory Domestication of C. elegans. PLoS ONE, 2010, 5, e13922.	2.5	68
98	Crossâ€species chemogenomic profiling reveals evolutionarily conserved drug mode of action. Molecular Systems Biology, 2010, 6, 451.	7.2	143
99	A time-invariant principle of genome evolution. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 13004-13009.	7.1	44
100	FcÎ ³ Receptor I Alpha Chain (CD64) Expression in Macrophages Is Critical for the Onset of Meningitis by Escherichia coli K1. PLoS Pathogens, 2010, 6, e1001203.	4.7	45
101	An Expanded Oct4 Interaction Network: Implications for Stem Cell Biology, Development, and Disease. Cell Stem Cell, 2010, 6, 382-395.	11.1	338
102	Principles of transcriptional regulation and evolution of the metabolic system in <i>E. coli</i> Genome Research, 2009, 19, 79-91.	5.5	55
103	Genomic analysis reveals a tight link between transcription factor dynamics and regulatory network architecture. Molecular Systems Biology, 2009, 5, 294.	7.2	146
104	Dissecting the expression dynamics of RNA-binding proteins in posttranscriptional regulatory networks. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 20300-20305.	7.1	85
105	The impact of genomic neighborhood on the evolution of human and chimpanzee transcriptome. Genome Research, 2009, 19, 785-794.	5.5	44
106	The rules of disorder or why disorder rules. Progress in Biophysics and Molecular Biology, 2009, 99, 94-103.	2.9	160
107	The efficiency of mitochondrial electron transport chain is increased in the longâ€lived <i>mrg19 Saccharomyces cerevisiae</i> . Aging Cell, 2009, 8, 643-653.	6.7	12
108	Methods to Reconstruct and Compare Transcriptional Regulatory Networks. Methods in Molecular Biology, 2009, 541, 163-180.	0.9	36

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109	Transcript stability in the protein interaction network of Escherichia coli. Molecular BioSystems, 2009, 5, 154-162.	2.9	14
110	Xpf and Not the Fanconi Anaemia Proteins or Rev3 Accounts for the Extreme Resistance to Cisplatin in Dictyostelium discoideum. PLoS Genetics, 2009, 5, e1000645.	3.5	52
111	Chemogenomics and biotechnology. Trends in Biotechnology, 2008, 26, 252-258.	9.3	32
112	Comparison of transcription regulatory interactions inferred from high-throughput methods: what do they reveal?. Trends in Genetics, 2008, 24, 319-323.	6.7	18
113	Mechanistic Insight into Site-Restricted Monoubiquitination of FANCD2 by Ube2t, FANCL, and FANCI. Molecular Cell, 2008, 32, 767-777.	9.7	170
114	Eukaryotic gene regulation in three dimensions and its impact on genome evolution. Current Opinion in Genetics and Development, 2008, 18, 571-582.	3.3	43
115	Tight Regulation of Unstructured Proteins: From Transcript Synthesis to Protein Degradation. Science, 2008, 322, 1365-1368.	12.6	419
116	Conservation and Evolutionary Dynamics of the <i>agr</i> Cell-to-Cell Communication System across Firmicutes. Journal of Bacteriology, 2008, 190, 743-746.	2.2	80
117	Solitary and Repetitive Binding Motifs for the AP2 Complex α-Appendage in Amphiphysin and Other Accessory Proteins. Journal of Biological Chemistry, 2008, 283, 5099-5109.	3.4	26
118	Transcriptional regulation constrains the organization of genes on eukaryotic chromosomes. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 15761-15766.	7.1	72
119	Computational approaches to study transcriptional regulation. Biochemical Society Transactions, 2008, 36, 758-765.	3.4	25
120	High-affinity DNA binding sites for H-NS provide a molecular basis for selective silencing within proteobacterial genomes. Nucleic Acids Research, 2007, 35, 6330-6337.	14.5	231
121	Functional and Transcriptional Coherency of Modules in the Human Protein Interaction Network. Journal of Integrative Bioinformatics, 2007, 4, 198-207.	1.5	3
122	Interplay Between Network Structures, Regulatory Modes and Sensing Mechanisms of Transcription Factors in the Transcriptional Regulatory Network of E. coli. Journal of Molecular Biology, 2007, 372, 1108-1122.	4.2	53
123	Investigations on C–Hâ∢Ï€ interactions in RNA binding proteins. International Journal of Biological Macromolecules, 2007, 41, 251-259.	7.5	24
124	The natural history of the WRKY–GCM1 zinc fingers and the relationship between transcription factors and transposons. Nucleic Acids Research, 2006, 34, 6505-6520.	14.5	157
125	Evolutionary Dynamics of Prokaryotic Transcriptional Regulatory Networks. Journal of Molecular Biology, 2006, 358, 614-633.	4.2	254
126	Uncovering a Hidden Distributed Architecture Behind Scale-free Transcriptional Regulatory Networks. Journal of Molecular Biology, 2006, 360, 204-212.	4.2	64

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127	Comprehensive Analysis of Combinatorial Regulation using the Transcriptional Regulatory Network of Yeast. Journal of Molecular Biology, 2006, 360, 213-227.	4.2	207
128	Adaptive evolution by optimizing expression levels in different environments. Trends in Microbiology, 2006, 14, 11-14.	7.7	43
129	Exploring the environmental preference of weak interactions in $(\hat{l}\pm/\hat{l}^2)8$ barrel proteins. Proteins: Structure, Function and Bioinformatics, 2006, 65, 75-86.	2.6	21
130	Estimating the Prevalence and Regulatory Potential of the Telomere Looping Effect in Yeast Transcription Regulation. Cell Cycle, 2006, 5, 2354-2363.	2.6	7
131	The HIRAN Domain and Recruitment of Chromatin Remodeling and Repair activities to Damaged DNA. Cell Cycle, 2006, 5, 775-782.	2.6	87
132	A Database of Bacterial Lipoproteins (DOLOP) with Functional Assignments to Predicted Lipoproteins. Journal of Bacteriology, 2006, 188, 2761-2773.	2.2	255
133	The genome of the social amoeba Dictyostelium discoideum. Nature, 2005, 435, 43-57.	27.8	1,179
134	Discovery of the principal specific transcription factors of Apicomplexa and their implication for the evolution of the AP2-integrase DNA binding domains. Nucleic Acids Research, 2005, 33, 3994-4006.	14.5	426
135	The Transcriptional Landscape of the Mammalian Genome. Science, 2005, 309, 1559-1563.	12.6	3,227
136	Gene regulatory network growth by duplication. Nature Genetics, 2004, 36, 492-496.	21.4	475
137	Evolving nature of the AP2 α-appendage hub during clathrin-coated vesicle endocytosis. EMBO Journal, 2004, 23, 4371-4383.	7.8	177
138	Genomic analysis of regulatory network dynamics reveals large topological changes. Nature, 2004, 431, 308-312.	27.8	921
139	GenCompass: a universal system for analysing gene expression for any genome. Trends in Biotechnology, 2004, 22, 552-555.	9.3	3
140	Structure and evolution of transcriptional regulatory networks. Current Opinion in Structural Biology, 2004, 14, 283-291.	5.7	683
141	Functional determinants of transcription factors in Escherichia coli: protein families and binding sites. Trends in Genetics, 2003, 19, 75-79.	6.7	75
142	Registering ?-helices and ?-strands using backbone C?H?O interactions. Proteins: Structure, Function and Bioinformatics, 2003, 51, 167-171.	2.6	25
143	Did the loss of sigma factors initiate pseudogene accumulation in M. leprae?. Trends in Microbiology, 2003, 11, 59-61.	7.7	34
144	NCI: a server to identify non-canonical interactions in protein structures. Nucleic Acids Research, 2003, 31, 3345-3348.	14.5	68

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145	Evolution of transcription factors and the gene regulatory network in Escherichia coli. Nucleic Acids Research, 2003, 31, 1234-1244.	14.5	283
146	Shigellaapyrase - a novel variant of bacterial acid phosphatases?. FEBS Letters, 2002, 512, 8-12.	2.8	14
147	A C–Hâ∢O Hydrogen Bond Stabilized Polypeptide Chain Reversal Motif at the C Terminus of Helices in Proteins. Journal of Molecular Biology, 2002, 322, 871-880.	4.2	75
148	Conservation of gene co-regulation in prokaryotes and eukaryotes. Trends in Biotechnology, 2002, 20, 407-410.	9.3	111
149	Discovery and Genetic Code Expansion of a Polyethylene Terephthalate (PET) Hydrolase from the Human Saliva Metagenome for the Degradation and Bioâ€Functionalization of PET. Angewandte Chemie, 0, , .	2.0	2