Hyunbum Jang

List of Publications by Citations

95 papers	2,992 citations	32 h-index	51 g-index
103 ext. papers	3,849 ext. citations	8.2 avg, IF	6.01 L-index

#	Paper	IF	Citations
95	Ras Conformational Ensembles, Allostery, and Signaling. *Chemical Reviews*, **2016**, 116, 6607-65	68.1	199
94	Truncated beta-amyloid peptide channels provide an alternative mechanism for Alzheimer's Disease and Down syndrome. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 6538-43	11.5	176
93	GTP-Dependent K-Ras Dimerization. *Structure*, **2015**, 23, 1325-35	5.2	145
92	Drugging Ras GTPase: a comprehensive mechanistic and signaling structural view. *Chemical Society Reviews*, **2016**, 45, 4929-52	58.5	113
91	Mechanisms for the Insertion of Toxic, Fibril-like β-Amyloid Oligomers into the Membrane. *Journal of Chemical Theory and Computation*, **2013**, 9, 822-833	6.4	102
90	The Structural Basis of Oncogenic Mutations G12, G13 and Q61 in Small GTPase K-Ras4B. *Scientific Reports*, **2016**, 6, 21949	4.9	95
89	Mutations in LZTR1 drive human disease by dysregulating RAS ubiquitination. *Science*, **2018**, 362, 1177-1182	33.3	87
88	Mechanisms of membrane binding of small GTPase K-Ras4B farnesylated hypervariable region. *Journal of Biological Chemistry*, **2015**, 290, 9465-77	5.4	81
87	A New View of Ras Isoforms in Cancers. *Cancer Research*, **2016**, 76, 18-23	10.1	71
86	Membrane-associated Ras dimers are isoform-specific: K-Ras dimers differ from H-Ras dimers. *Biochemical Journal*, **2016**, 473, 1719-32	3.8	68
85	Disordered amyloidogenic peptides may insert into the membrane and assemble into common cyclic structural motifs. *Chemical Society Reviews*, **2014**, 43, 6750-64	58.5	66
84	The Key Role of Calmodulin in KRAS-Driven Adenocarcinomas. *Molecular Cancer Research*, **2015**, 13, 1265-73	6.6	65
83	Oncogenic Ras Isoforms Signaling Specificity at the Membrane. *Cancer Research*, **2018**, 78, 593-602	10.1	65
82	GTP Binding and Oncogenic Mutations May Attenuate Hypervariable Region (HVR)-Catalytic Domain Interactions in Small GTPase K-Ras4B, Exposing the Effector Binding Site. *Journal of Biological Chemistry*, **2015**, 290, 28887-900	5.4	60
81	The higher level of complexity of K-Ras4B activation at the membrane. *FASEB Journal*, **2016**, 30, 1643-55	0.9	58
80	Polymorphism of amyloid β peptide in different environments: implications for membrane insertion and pore formation. *Soft Matter*, **2011**, 7, 5267-5273	3.6	57
79	High-Affinity Interaction of the K-Ras4B Hypervariable Region with the Ras Active Site. *Biophysical Journal*, **2015**, 109, 2602-2613	2.9	56

78	A New View of Pathway-Driven Drug Resistance in Tumor Proliferation. *Trends in Pharmacological Sciences*, **2017**, 38, 427-437	13.2	47
77	PI3K inhibitors: review and new strategies. *Chemical Science*, **2020**, 11, 5855-5865	9.4	46
76	Raf-1 Cysteine-Rich Domain Increases the Affinity of K-Ras/Raf at the Membrane, Promoting MAPK Signaling. *Structure*, **2018**, 26, 513-525.e2	5.2	46
75	Inhibitors of Ras-SOS Interactions. *ChemMedChem*, **2016**, 11, 814-21	3.7	46
74	The mechanism of PI3K activation at the atomic level. *Chemical Science*, **2019**, 10, 3671-3680	9.4	45
73	Review: Precision medicine and driver mutations: Computational methods, functional assays and conformational principles for interpreting cancer drivers. *PLoS Computational Biology*, **2019**, 15, e1006658	5	45
72	Calmodulin and PI3K Signaling in Cancers. *Trends in Cancer*, **2017**, 3, 214-224	12.5	43
71	Oncogenic KRAS signaling and YAP1/catenin: Similar cell cycle control in tumor initiation. *Seminars in Cell and Developmental Biology*, **2016**, 58, 79-85	7.5	43
70	Phosphorylated Calmodulin Promotes PI3K Activation by Binding to the SH Domains. *Biophysical Journal*, **2017**, 113, 1956-1967	2.9	39
69	The disordered hypervariable region and the folded catalytic domain of oncogenic K-Ras4B partner in phospholipid binding. *Current Opinion in Structural Biology*, **2016**, 36, 10-7	8.1	35
68	Flexible-body motions of calmodulin and the farnesylated hypervariable region yield a high-affinity interaction enabling K-Ras4B membrane extraction. *Journal of Biological Chemistry*, **2017**, 292, 12544-12559	5.4	34
67	Intrinsic protein disorder in oncogenic KRAS signaling. *Cellular and Molecular Life Sciences*, **2017**, 74, 3245-3261	10.3	34
66	Comparison of the Conformations of KRAS Isoforms, K-Ras4A and K-Ras4B, Points to Similarities and Significant Differences. *Journal of Physical Chemistry B*, **2016**, 120, 667-79	3.4	34
65	Oligomerization and nanocluster organization render specificity. *Biological Reviews*, **2015**, 90, 587-98	13.5	34
64	The structural basis for cancer treatment decisions. *Oncotarget*, **2014**, 5, 7285-302	3.3	33
63	Principles of K-Ras effector organization and the role of oncogenic K-Ras in cancer initiation through G1 cell cycle deregulation. *Expert Review of Proteomics*, **2015**, 12, 669-82	4.2	31
62	Is Nanoclustering essential for all oncogenic KRas pathways? Can it explain why wild-type KRas can inhibit its oncogenic variant?. *Seminars in Cancer Biology*, **2019**, 54, 114-120	12.7	30
61	K-Ras4B/calmodulin/PI3KA promising new adenocarcinoma-specific drug target?. *Expert Opinion on Therapeutic Targets*, **2016**, 20, 831-42	6.4	29

60	Does Ras Activate Raf and PI3K Allosterically?. *Frontiers in Oncology*, **2019**, 9, 1231	5.3	29
59	Autoinhibition in Ras effectors Raf, PI3Kα and RASSF5: a comprehensive review underscoring the challenges in pharmacological intervention. *Biophysical Reviews*, **2018**, 10, 1263-1282	3.7	29
58	The structural basis for Ras activation of PI3Kα lipid kinase. *Physical Chemistry Chemical Physics*, **2019**, 21, 12021-12028	3.6	28
57	Plasma membrane regulates Ras signaling networks. *Cellular Logistics*, **2015**, 5, e1136374		26
56	Familial Alzheimer's disease Osaka mutant (ΔE22) β-barrels suggest an explanation for the different Aβ1-40/42 preferred conformational states observed by experiment. *Journal of Physical Chemistry B*, **2013**, 117, 11518-29	3.4	26
55	Precision medicine review: rare driver mutations and their biophysical classification. *Biophysical Reviews*, **2019**, 11, 5-19	3.7	26
54	The quaternary assembly of KRas4B with Raf-1 at the membrane. *Computational and Structural Biotechnology Journal*, **2020**, 18, 737-748	6.8	26
53	Protein ensembles link genotype to phenotype. *PLoS Computational Biology*, **2019**, 15, e1006648	5	25
52	Unraveling the molecular mechanism of interactions of the Rho GTPases Cdc42 and Rac1 with the scaffolding protein IQGAP2. *Journal of Biological Chemistry*, **2018**, 293, 3685-3699	5.4	24
51	RASSF5: An MST activator and tumor suppressor in vivo but opposite in vitro. *Current Opinion in Structural Biology*, **2016**, 41, 217-224	8.1	24
50	Dynamic multiprotein assemblies shape the spatial structure of cell signaling. *Progress in Biophysics and Molecular Biology*, **2014**, 116, 158-64	4.7	24
49	PDEδ Binding to Ras Isoforms Provides a Route to Proper Membrane Localization. *Journal of Physical Chemistry B*, **2017**, 121, 5917-5927	3.4	21
48	The Structural Basis of the Farnesylated and Methylated KRas4B Interaction with Calmodulin. *Structure*, **2019**, 27, 1647-1659.e4	5.2	21
47	The dynamic mechanism of RASSF5 and MST kinase activation by Ras. *Physical Chemistry Chemical Physics*, **2017**, 19, 6470-6480	3.6	19
46	Oncogenic KRas mobility in the membrane and signaling response. *Seminars in Cancer Biology*, **2019**, 54, 109-113	12.7	18
45	Anticancer drug resistance: An update and perspective.. *Drug Resistance Updates*, **2021**, 100796	23.2	17
44	Allosteric KRas4B Can Modulate SOS1 Fast and Slow Ras Activation Cycles. *Biophysical Journal*, **2018**, 115, 629-641	2.9	16
43	Ras assemblies and signaling at the membrane. *Current Opinion in Structural Biology*, **2020**, 62, 140-148	8.1	15

42	Autoinhibition can identify rare driver mutations and advise pharmacology. *FASEB Journal*, **2020**, 34, 16-29	0.9	15
41	Oncogenic K-Ras4B Dimerization Enhances Downstream Mitogen-activated Protein Kinase Signaling. *Journal of Molecular Biology*, **2020**, 432, 1199-1215	6.5	13
40	Why Are Some Driver Mutations Rare?. *Trends in Pharmacological Sciences*, **2019**, 40, 919-929	13.2	13
39	Graphite-Templated Amyloid Nanostructures Formed by a Potential Pentapeptide Inhibitor for Alzheimer's Disease: A Combined Study of Real-Time Atomic Force Microscopy and Molecular Dynamics Simulations. *Langmuir*, **2017**, 33, 6647-6656	4	12
38	Computational Structural Biology: Successes, Future Directions, and Challenges. *Molecules*, **2019**, 24,	4.8	12
37	High-Affinity Interactions of the nSH3/cSH3 Domains of Grb2 with the C-Terminal Proline-Rich Domain of SOS1. *Journal of the American Chemical Society*, **2020**, 142, 3401-3411	16.4	12
36	PI3K Driver Mutations: A Biophysical Membrane-Centric Perspective. *Cancer Research*, **2021**, 81, 237-247	10.1	12
35	Calmodulin and IQGAP1 activation of PI3K□and Akt in KRAS, HRAS and NRAS-driven cancers. *Biochimica Et Biophysica Acta - Molecular Basis of Disease*, **2018**, 1864, 2304-2314	6.9	12
34	Are Parallel Proliferation Pathways Redundant?. *Trends in Biochemical Sciences*, **2020**, 45, 554-563	10.3	11
33	Calmodulin (CaM) Activates PI3K□by Targeting the "Soft" CaM-Binding Motifs in Both the nSH2 and cSH2 Domains of p85□*Journal of Physical Chemistry B*, **2018**, 122, 11137-11146	3.4	11
32	Arl2-Mediated Allosteric Release of Farnesylated KRas4B from Shuttling Factor PDE□*Journal of Physical Chemistry B*, **2018**, 122, 7503-7513	3.4	11
31	Structural Features that Distinguish Inactive and Active PI3K Lipid Kinases. *Journal of Molecular Biology*, **2020**, 432, 5849-5859	6.5	11
30	Phosphorylation and Driver Mutations in PI3K□and PTEN Autoinhibition. *Molecular Cancer Research* , **2021**, 19, 543-548	6.6	11
29	A new precision medicine initiative at the dawn of exascale computing. *Signal Transduction and Targeted Therapy*, **2021**, 6, 3	21	11
28	Inhibition of Nonfunctional Ras. *Cell Chemical Biology*, **2021**, 28, 121-133	8.2	11
27	The Mystery of Rap1 Suppression of Oncogenic Ras. *Trends in Cancer*, **2020**, 6, 369-379	12.5	10
26	The mechanism of full activation of tumor suppressor PTEN at the phosphoinositide-enriched membrane. *IScience*, **2021**, 24, 102438	6.1	10
25	The mechanism of activation of monomeric B-Raf V600E. *Computational and Structural Biotechnology Journal*, **2021**, 19, 3349-3363	6.8	9

24	Interaction of Calmodulin with the cSH2 Domain of the p85 Regulatory Subunit. *Biochemistry*, **2018**, 57, 1917-1928	3.2	8
23	Ca-Dependent Switch of Calmodulin Interaction Mode with Tandem IQ Motifs in the Scaffolding Protein IQGAP1. *Biochemistry*, **2019**, 58, 4903-4911	3.2	8
22	Dynamic Protein Allosteric Regulation and Disease. *Advances in Experimental Medicine and Biology*, **2019**, 1163, 25-43	3.6	8
21	SOS1 interacts with Grb2 through regions that induce closed nSH3 conformations. *Journal of Chemical Physics*, **2020**, 153, 045106	3.9	7
20	Active and Inactive Cdc42 Differ in Their Insert Region Conformational Dynamics. *Biophysical Journal*, **2021**, 120, 306-318	2.9	7
19	B-Raf autoinhibition in the presence and absence of 14-3-3. *Structure*, **2021**, 29, 768-777.e2	5.2	7
18	Computational Methods for Structural and Functional Studies of AlzheimerS Amyloid Ion Channels. *Methods in Molecular Biology*, **2016**, 1345, 251-68	1.4	6
17	Normal Mode Analysis of KRas4B Reveals Partner Specific Dynamics. *Journal of Physical Chemistry B* , **2021**, 125, 5210-5221	3.4	6
16	Medin Oligomer Membrane Pore Formation: A Potential Mechanism of Vascular Dysfunction. *Biophysical Journal*, **2020**, 118, 2769-2782	2.9	5
15	Nucleotide-Specific Autoinhibition of Full-Length K-Ras4B Identified by Extensive Conformational Sampling. *Frontiers in Molecular Biosciences*, **2020**, 7, 145	5.6	5
14	Ras isoform-specific expression, chromatin accessibility, and signaling. *Biophysical Reviews*, **2021**, 13, 489-505	3.7	5
13	How can same-gene mutations promote both cancer and developmental disorders?. *Science Advances*, **2022**, 8, eabm2059	14.3	4
12	Allostery, and how to define and measure signal transduction.. *Biophysical Chemistry*, **2022**, 283, 106766	3.5	3
11	The mechanism of Raf activation through dimerization.. *Chemical Science*, **2021**, 12, 15609-15619	9.4	3
10	Signaling in the crowded cell. *Current Opinion in Structural Biology*, **2021**, 71, 43-50	8.1	3
9	Mechanism of activation and the rewired network: New drug design concepts. *Medicinal Research Reviews*, **2021**,	14.4	2
8	Mechanistic Differences of Activation of Rac1 and Rac1. *Journal of Physical Chemistry B*, **2021**, 125, 3790-3802	3.4	2
7	The structural basis of the oncogenic mutant K-Ras4B homodimers		1

6	The Mechanism of Activation of Monomeric B-Raf V600E		1
5	The structural basis of Akt PH domain interaction with calmodulin. *Biophysical Journal*, **2021**, 120, 1994-2008	2.9	1
4	Allostery: Allosteric Cancer Drivers and Innovative Allosteric Drugs.. *Journal of Molecular Biology*, **2022**, 167569	6.5	1
3	The mechanism of activation of MEK1 by B-Raf and KSR1.. *Cellular and Molecular Life Sciences*, **2022**, 79, 281	10.3	1
2	Novel MAPK/AKT-impairing germline NRAS variant identified in a melanoma-prone family. *Familial Cancer*, **2021**, 1	3	0
1	The dynamic nature of the K-Ras/calmodulin complex can be altered by oncogenic mutations. *Current Opinion in Structural Biology*, **2021**, 71, 164-170	8.1	0