1. Phylogeny  
   Serine/threonine‐protein kinase PRP4 homolog (PRPF4B), also known as PRP4 kinase or PRPF4K, is a highly conserved dual‐specificity kinase that is a member of the CMGC group of kinases, a clade that includes cyclin‐dependent kinases (CDKs), mitogen‐activated protein kinases (MAPKs), glycogen synthase kinases (GSKs), and Cdc2‐like kinases (CLKs) (dellaire2002mammalianprp4kinase pages 1-2, habib2022tinkertailortumour pages 2-3).  
   Orthologs of PRP4 kinase have been identified in a broad range of eukaryotic species, including unicellular organisms such as Schizosaccharomyces pombe, the fruit fly Drosophila melanogaster, and Caenorhabditis elegans, as well as in plants like Arabidopsis thaliana and rice, and even in certain protozoan parasites (swale2021adrugrepurposing pages 45-47, kanno2018prp4kaaputative pages 1-2).  
   Phylogenetic analyses based on conserved catalytic domain sequences place PRP4 kinase in close evolutionary relationship with the DYRK/CLK family, underscoring its ancient origin and essential role in RNA processing and cell cycle regulation that can be traced back to the Last Eukaryotic Common Ancestor (dellaire2002mammalianprp4kinase pages 1-2, habib2022tinkertailortumour pages 2-3).  
   In summary, PRP4 kinase is part of an evolutionarily retained core set of splicing–associated kinases whose conservation across taxa reflects its vital function in pre-mRNA splicing and additional regulatory processes (dellaire2002mammalianprp4kinase pages 1-2, kanno2018prp4kaaputative pages 1-2).
2. Reaction Catalyzed  
   PRP4 kinase catalyzes the phosphorylation of target proteins by transferring the terminal phosphate group from ATP to the hydroxyl group of serine or threonine residues present in specific substrates (gao2013evaluationofcancer pages 1-2, dellaire2002mammalianprp4kinase pages 1-2).  
   The chemical reaction can be summarized as follows:  
     ATP + [protein]-(L-serine or L-threonine) → ADP + [protein]-(L-serine/threonine)-phosphate + H⁺ (gao2013evaluationofcancer pages 1-2).
3. Cofactor Requirements  
   Like most serine/threonine kinases, the catalytic activity of PRP4 kinase is dependent on the presence of divalent metal ion cofactors, with Mg²⁺ being essential for efficient ATP binding and phosphotransfer activity (dellaire2002mammalianprp4kinase pages 1-2, gao2013evaluationofcancer pages 1-2).
4. Substrate Specificity  
   PRP4 kinase exhibits a strong substrate preference for proteins that play pivotal roles in pre-mRNA splicing.  
   It phosphorylates spliceosomal components including PRPF6 and PRPF31, thereby contributing to the stable assembly of the U4/U6-U5 tri-snRNP and subsequent formation of the spliceosome B complex (camila2023phosphorylationmediatedregulation pages 2-3, dellaire2002mammalianprp4kinase pages 1-2).  
   Furthermore, PRP4 kinase phosphorylates SR splicing factors such as SRSF1, targeting serine residues within arginine-serine (RS) rich motifs that are characteristic of these substrates (dellaire2002mammalianprp4kinase pages 10-12, habib2022tinkertailortumour pages 2-3).  
   Phosphoproteomic analyses have identified enriched substrate motifs among candidate PRP4 kinase targets, with consensus sequences such as XXS*PXX and XXS*XXE\*XX being proposed for subsets of its substrates, although the full extent of its substrate specificity continues to be refined by ongoing studies (gao2013evaluationofcancer pages 7-8, johnson2023anatlasof pages 6-7).
5. Structure  
   PRP4 kinase is a protein of approximately 1007 amino acids organized into distinct domains that underlie its multifunctional regulatory roles.  
   The N-terminal portion of the protein is enriched in lysine-histidine (KKHK) repeats and arginine-serine (RS) dipeptide regions, which are typically intrinsically disordered and facilitate interactions with RNA and other splicing-related proteins, contributing to its localization in nuclear speckles (dellaire2002mammalianprp4kinase pages 2-4, habib2022tinkertailortumour pages 2-3).  
   The C-terminal region harbors the highly conserved dual-specificity kinase domain that exhibits all the canonical features of serine/threonine kinases, including a catalytic lysine essential for ATP binding, the DFG motif, and an activation loop (dellaire2002mammalianprp4kinase pages 4-5, cowger2006biochemicalandfunctional pages 239-240).  
   Unique to PRP4 kinase are two conserved motifs, MI (commonly referred to by its consensus sequence DDMFA) and MII (with a consensus such as DNWTDAEGYYRV), which lie adjacent to the kinase domain and are conserved across orthologues, though their precise functional roles remain to be fully elucidated (dellaire2002mammalianprp4kinase pages 4-5, cowger2006biochemicalandfunctional pages 239-240).  
   Recent X-ray crystallographic studies of the PRP4 kinase domain have revealed structures in both its apo form and in complex with ligands such as ADP, AMPPNP, and small molecule inhibitors (gao2013evaluationofcancer pages 7-8, gao2013evaluationofcancer pages 13-14).  
   These structural analyses have identified several non-conserved residues, such as Cys833 preceding the DFG motif and residues Thr693 and Val697 that are distinct from those in related kinases like SRPKs and CLKs, presenting opportunities for the design of selective inhibitors (gao2013evaluationofcancer pages 13-14, swale2021adrugrepurposing pages 40-41).  
   Biochemical purification also reveals that PRP4 kinase can exist in both monomeric and tetrameric forms, suggesting that oligomeric state may play a role in its regulation and function (gao2013evaluationofcancer pages 4-5).
6. Regulation  
   PRP4 kinase is subject to extensive regulation through post-translational modifications that modulate its catalytic activity and interactions with other proteins.  
   The protein undergoes autophosphorylation as well as phosphorylation of associated spliceosomal components, which is central to its role in coordinating the assembly and activation of the spliceosome (dellaire2002mammalianprp4kinase pages 10-12, cowger2006biochemicalandfunctional pages 243-245).  
   Multiple phosphorylated isoforms of PRP4 kinase have been observed as shifts in electrophoretic mobility in Western blot analyses, indicative of dynamic regulation by phosphorylation (dellaire2002mammalianprp4kinase pages 5-8).  
   Interaction partners such as PRPF6, SWAP, pinin, BRG1, and components of the N-CoR deacetylase complex have been shown to associate with specific phosphorylation states of PRP4 kinase, suggesting that its activity is tightly linked to these protein complexes involved in splicing and chromatin remodeling (dellaire2002mammalianprp4kinase pages 10-12, cowger2006biochemicalandfunctional pages 243-245, habib2022tinkertailortumour pages 11-12).  
   Moreover, the regulation of PRP4 kinase may involve additional kinases and phosphatases that modify its RS domain and other regions, thereby influencing its subcellular localization and substrate interactions (dellaire2002mammalianprp4kinase pages 10-12, habib2022tinkertailortumour pages 11-12).
7. Function  
   Functionally, PRP4 kinase plays a central role in the regulation of pre-mRNA splicing by phosphorylating key spliceosomal proteins, thereby facilitating the assembly and maturation of the spliceosome B complex (camila2023phosphorylationmediatedregulation pages 2-3, dellaire2002mammalianprp4kinase pages 1-2).  
   It phosphorylates splicing factors such as PRPF6 and PRPF31, which are required for the integration of the U4/U6-U5 tri-snRNP into the spliceosome, and it also targets SR proteins like SRSF1 to modulate their function in splicing (dellaire2002mammalianprp4kinase pages 10-12, habib2022tinkertailortumour pages 2-3).  
   In addition to its splicing functions, PRP4 kinase associates with chromatin remodeling complexes, including those containing NCOR1 and BRG1, thereby linking transcriptional regulation with splicing events (dellaire2002mammalianprp4kinase pages 14-15, camila2023phosphorylationmediatedregulation pages 2-3).  
   Furthermore, PRP4 kinase localizes to the nucleus during interphase, notably concentrating in nuclear speckles rich in splicing factors, and is sequestered to chromosomes during mitosis where it contributes to the spindle assembly checkpoint (SAC) by facilitating the recruitment of checkpoint proteins such as MAD1 and MAD2 (cowger2006biochemicalandfunctional pages 243-245, dellaire2002mammalianprp4kinase pages 10-12, habib2022tinkertailortumour pages 7-9).  
   Its combined roles in RNA processing, transcription regulation, and cell cycle progression underscore its importance in maintaining genome stability and proper cellular function, with implications for tumor biology where dysregulated PRP4 expression has been associated with altered chemotherapeutic responses in cancers such as ovarian and breast carcinoma (gao2013evaluationofcancer pages 7-8, habib2022tinkertailortumour pages 6-7).
8. Other Comments  
   PRP4 kinase has emerged as a promising therapeutic target due to its integral role in splicing regulation and cell cycle control.  
   Small molecule inhibitors, including altiratinib and compound A, have been identified that selectively target the PRP4 kinase domain by exploiting unique structural features, such as the presence of a non-conserved cysteine residue (Cys833) near the DFG motif and distinct residues in the hinge region (gao2013evaluationofcancer pages 13-14, swale2021adrugrepurposing pages 40-41).  
   In addition, levels of PRP4 kinase have been correlated with chemotherapeutic sensitivity; for instance, reduced expression of PRP4 is associated with increased anoikis sensitivity and altered taxane response in ovarian and breast cancer models (camila2023phosphorylationmediatedregulation pages 2-3, habib2022tinkertailortumour pages 6-7).  
   Furthermore, repurposing screens have identified inhibitors that target PRP4 kinase in parasitic organisms, such as those from Toxoplasma gondii and Plasmodium falciparum, highlighting its conserved nature and potential as a drug target in infectious diseases (swale2021adrugrepurposing pages 45-47).  
   These findings emphasize the multifaceted regulatory and functional roles of PRP4 kinase, as well as its potential utility in targeted therapeutic strategies against cancer and parasitic diseases.
9. References
10. camila2023phosphorylationmediatedregulation pages 2-3
11. cowger2006biochemicalandfunctional pages 239-240
12. cowger2006biochemicalandfunctional pages 243-245
13. dellaire2002mammalianprp4kinase pages 1-2
14. dellaire2002mammalianprp4kinase pages 10-12
15. dellaire2002mammalianprp4kinase pages 14-15
16. dellaire2002mammalianprp4kinase pages 4-5
17. gao2013evaluationofcancer pages 1-2
18. gao2013evaluationofcancer pages 11-12
19. gao2013evaluationofcancer pages 12-13
20. gao2013evaluationofcancer pages 13-14
21. gao2013evaluationofcancer pages 4-5
22. gao2013evaluationofcancer pages 5-6
23. gao2013evaluationofcancer pages 6-7
24. gao2013evaluationofcancer pages 8-9
25. gao2013evaluationofcancer pages 9-11
26. habib2022tinkertailortumour pages 1-2
27. habib2022tinkertailortumour pages 11-12
28. habib2022tinkertailortumour pages 2-3
29. habib2022tinkertailortumour pages 3-4
30. habib2022tinkertailortumour pages 4-6
31. habib2022tinkertailortumour pages 7-9
32. habib2022tinkertailortumour pages 9-10
33. kanno2018prp4kaaputative pages 1-2
34. kanno2018prp4kaaputative pages 15-16
35. mikolaskova2021identificationofnrl1 pages 16-18
36. swale2021adrugrepurposing pages 4-6
37. dardick2006plantandanimal pages 6-7
38. dellaire2002mammalianprp4kinase pages 2-2
39. dellaire2002mammalianprp4kinase pages 2-4
40. dellaire2002mammalianprp4kinase pages 5-8
41. dellaire2002mammalianprp4kinase pages 8-10
42. swale2021adrugrepurposing pages 40-41
43. swale2021adrugrepurposing pages 45-47
44. johnson2023anatlasof pages 2-3
45. johnson2023anatlasof pages 21-23
46. johnson2023anatlasof pages 3-4
47. johnson2023anatlasof pages 4-4
48. johnson2023anatlasof pages 6-7
49. johnson2023anatlasof pages 7-7
50. pastor2021interplaybetweencmgc pages 17-17
51. pastor2021interplaybetweencmgc pages 3-5
52. pastor2021interplaybetweencmgc pages 7-9

References

1. (camila2023phosphorylationmediatedregulation pages 2-3): Maria Camila, Rodriguez Gallo, R. G. Uhrig, Thomas A. DeFalco, and J. Walley. Phosphorylation mediated regulation of rna splicing in plants. Frontiers in Plant Science, Sep 2023. URL: https://doi.org/10.3389/fpls.2023.1249057, doi:10.3389/fpls.2023.1249057. This article has 9 citations and is from a peer-reviewed journal.
2. (cowger2006biochemicalandfunctional pages 239-240): JJM Cowger. Biochemical and functional analysis of transcriptional corepressor complexes. Unknown journal, 2006.
3. (cowger2006biochemicalandfunctional pages 243-245): JJM Cowger. Biochemical and functional analysis of transcriptional corepressor complexes. Unknown journal, 2006.
4. (dellaire2002mammalianprp4kinase pages 1-2): Graham Dellaire, Evgeny M. Makarov, JeffJ.M. Cowger, Dasa Longman, Heidi G. E. Sutherland, Reinhard Lührmann, Joseph Torchia, and Wendy A. Bickmore. Mammalian prp4 kinase copurifies and interacts with components of both the u5 snrnp and the n-cor deacetylase complexes. Molecular and Cellular Biology, 22:5141-5156, Jul 2002. URL: https://doi.org/10.1128/mcb.22.14.5141-5156.2002, doi:10.1128/mcb.22.14.5141-5156.2002. This article has 118 citations and is from a domain leading peer-reviewed journal.
5. (dellaire2002mammalianprp4kinase pages 10-12): Graham Dellaire, Evgeny M. Makarov, JeffJ.M. Cowger, Dasa Longman, Heidi G. E. Sutherland, Reinhard Lührmann, Joseph Torchia, and Wendy A. Bickmore. Mammalian prp4 kinase copurifies and interacts with components of both the u5 snrnp and the n-cor deacetylase complexes. Molecular and Cellular Biology, 22:5141-5156, Jul 2002. URL: https://doi.org/10.1128/mcb.22.14.5141-5156.2002, doi:10.1128/mcb.22.14.5141-5156.2002. This article has 118 citations and is from a domain leading peer-reviewed journal.
6. (dellaire2002mammalianprp4kinase pages 14-15): Graham Dellaire, Evgeny M. Makarov, JeffJ.M. Cowger, Dasa Longman, Heidi G. E. Sutherland, Reinhard Lührmann, Joseph Torchia, and Wendy A. Bickmore. Mammalian prp4 kinase copurifies and interacts with components of both the u5 snrnp and the n-cor deacetylase complexes. Molecular and Cellular Biology, 22:5141-5156, Jul 2002. URL: https://doi.org/10.1128/mcb.22.14.5141-5156.2002, doi:10.1128/mcb.22.14.5141-5156.2002. This article has 118 citations and is from a domain leading peer-reviewed journal.
7. (dellaire2002mammalianprp4kinase pages 4-5): Graham Dellaire, Evgeny M. Makarov, JeffJ.M. Cowger, Dasa Longman, Heidi G. E. Sutherland, Reinhard Lührmann, Joseph Torchia, and Wendy A. Bickmore. Mammalian prp4 kinase copurifies and interacts with components of both the u5 snrnp and the n-cor deacetylase complexes. Molecular and Cellular Biology, 22:5141-5156, Jul 2002. URL: https://doi.org/10.1128/mcb.22.14.5141-5156.2002, doi:10.1128/mcb.22.14.5141-5156.2002. This article has 118 citations and is from a domain leading peer-reviewed journal.
8. (gao2013evaluationofcancer pages 1-2): Q. Gao, I. Mechin, N. Kothari, Zhuyan Guo, G. Deng, K. Haas, Jessica Mcmanus, Dietmar Hoffmann, Anlai Wang, D. Wiederschain, J. Rocnik, Werngard Czechtizky, Xin Chen, L. McLean, H. Arlt, David P. Harper, Feng Liu, T. Majid, Vinod F. Patel, C. Lengauer, C. García-echeverría, Bailin Zhang, Hong Cheng, M. Dorsch, and Shih-Min A. Huang. Evaluation of cancer dependence and druggability of prp4 kinase using cellular, biochemical, and structural approaches. The Journal of Biological Chemistry, 288:30125-30138, Sep 2013. URL: https://doi.org/10.1074/jbc.m113.473348, doi:10.1074/jbc.m113.473348. This article has 35 citations.
9. (gao2013evaluationofcancer pages 11-12): Q. Gao, I. Mechin, N. Kothari, Zhuyan Guo, G. Deng, K. Haas, Jessica Mcmanus, Dietmar Hoffmann, Anlai Wang, D. Wiederschain, J. Rocnik, Werngard Czechtizky, Xin Chen, L. McLean, H. Arlt, David P. Harper, Feng Liu, T. Majid, Vinod F. Patel, C. Lengauer, C. García-echeverría, Bailin Zhang, Hong Cheng, M. Dorsch, and Shih-Min A. Huang. Evaluation of cancer dependence and druggability of prp4 kinase using cellular, biochemical, and structural approaches. The Journal of Biological Chemistry, 288:30125-30138, Sep 2013. URL: https://doi.org/10.1074/jbc.m113.473348, doi:10.1074/jbc.m113.473348. This article has 35 citations.
10. (gao2013evaluationofcancer pages 12-13): Q. Gao, I. Mechin, N. Kothari, Zhuyan Guo, G. Deng, K. Haas, Jessica Mcmanus, Dietmar Hoffmann, Anlai Wang, D. Wiederschain, J. Rocnik, Werngard Czechtizky, Xin Chen, L. McLean, H. Arlt, David P. Harper, Feng Liu, T. Majid, Vinod F. Patel, C. Lengauer, C. García-echeverría, Bailin Zhang, Hong Cheng, M. Dorsch, and Shih-Min A. Huang. Evaluation of cancer dependence and druggability of prp4 kinase using cellular, biochemical, and structural approaches. The Journal of Biological Chemistry, 288:30125-30138, Sep 2013. URL: https://doi.org/10.1074/jbc.m113.473348, doi:10.1074/jbc.m113.473348. This article has 35 citations.
11. (gao2013evaluationofcancer pages 13-14): Q. Gao, I. Mechin, N. Kothari, Zhuyan Guo, G. Deng, K. Haas, Jessica Mcmanus, Dietmar Hoffmann, Anlai Wang, D. Wiederschain, J. Rocnik, Werngard Czechtizky, Xin Chen, L. McLean, H. Arlt, David P. Harper, Feng Liu, T. Majid, Vinod F. Patel, C. Lengauer, C. García-echeverría, Bailin Zhang, Hong Cheng, M. Dorsch, and Shih-Min A. Huang. Evaluation of cancer dependence and druggability of prp4 kinase using cellular, biochemical, and structural approaches. The Journal of Biological Chemistry, 288:30125-30138, Sep 2013. URL: https://doi.org/10.1074/jbc.m113.473348, doi:10.1074/jbc.m113.473348. This article has 35 citations.
12. (gao2013evaluationofcancer pages 4-5): Q. Gao, I. Mechin, N. Kothari, Zhuyan Guo, G. Deng, K. Haas, Jessica Mcmanus, Dietmar Hoffmann, Anlai Wang, D. Wiederschain, J. Rocnik, Werngard Czechtizky, Xin Chen, L. McLean, H. Arlt, David P. Harper, Feng Liu, T. Majid, Vinod F. Patel, C. Lengauer, C. García-echeverría, Bailin Zhang, Hong Cheng, M. Dorsch, and Shih-Min A. Huang. Evaluation of cancer dependence and druggability of prp4 kinase using cellular, biochemical, and structural approaches. The Journal of Biological Chemistry, 288:30125-30138, Sep 2013. URL: https://doi.org/10.1074/jbc.m113.473348, doi:10.1074/jbc.m113.473348. This article has 35 citations.
13. (gao2013evaluationofcancer pages 5-6): Q. Gao, I. Mechin, N. Kothari, Zhuyan Guo, G. Deng, K. Haas, Jessica Mcmanus, Dietmar Hoffmann, Anlai Wang, D. Wiederschain, J. Rocnik, Werngard Czechtizky, Xin Chen, L. McLean, H. Arlt, David P. Harper, Feng Liu, T. Majid, Vinod F. Patel, C. Lengauer, C. García-echeverría, Bailin Zhang, Hong Cheng, M. Dorsch, and Shih-Min A. Huang. Evaluation of cancer dependence and druggability of prp4 kinase using cellular, biochemical, and structural approaches. The Journal of Biological Chemistry, 288:30125-30138, Sep 2013. URL: https://doi.org/10.1074/jbc.m113.473348, doi:10.1074/jbc.m113.473348. This article has 35 citations.
14. (gao2013evaluationofcancer pages 6-7): Q. Gao, I. Mechin, N. Kothari, Zhuyan Guo, G. Deng, K. Haas, Jessica Mcmanus, Dietmar Hoffmann, Anlai Wang, D. Wiederschain, J. Rocnik, Werngard Czechtizky, Xin Chen, L. McLean, H. Arlt, David P. Harper, Feng Liu, T. Majid, Vinod F. Patel, C. Lengauer, C. García-echeverría, Bailin Zhang, Hong Cheng, M. Dorsch, and Shih-Min A. Huang. Evaluation of cancer dependence and druggability of prp4 kinase using cellular, biochemical, and structural approaches. The Journal of Biological Chemistry, 288:30125-30138, Sep 2013. URL: https://doi.org/10.1074/jbc.m113.473348, doi:10.1074/jbc.m113.473348. This article has 35 citations.
15. (gao2013evaluationofcancer pages 8-9): Q. Gao, I. Mechin, N. Kothari, Zhuyan Guo, G. Deng, K. Haas, Jessica Mcmanus, Dietmar Hoffmann, Anlai Wang, D. Wiederschain, J. Rocnik, Werngard Czechtizky, Xin Chen, L. McLean, H. Arlt, David P. Harper, Feng Liu, T. Majid, Vinod F. Patel, C. Lengauer, C. García-echeverría, Bailin Zhang, Hong Cheng, M. Dorsch, and Shih-Min A. Huang. Evaluation of cancer dependence and druggability of prp4 kinase using cellular, biochemical, and structural approaches. The Journal of Biological Chemistry, 288:30125-30138, Sep 2013. URL: https://doi.org/10.1074/jbc.m113.473348, doi:10.1074/jbc.m113.473348. This article has 35 citations.
16. (gao2013evaluationofcancer pages 9-11): Q. Gao, I. Mechin, N. Kothari, Zhuyan Guo, G. Deng, K. Haas, Jessica Mcmanus, Dietmar Hoffmann, Anlai Wang, D. Wiederschain, J. Rocnik, Werngard Czechtizky, Xin Chen, L. McLean, H. Arlt, David P. Harper, Feng Liu, T. Majid, Vinod F. Patel, C. Lengauer, C. García-echeverría, Bailin Zhang, Hong Cheng, M. Dorsch, and Shih-Min A. Huang. Evaluation of cancer dependence and druggability of prp4 kinase using cellular, biochemical, and structural approaches. The Journal of Biological Chemistry, 288:30125-30138, Sep 2013. URL: https://doi.org/10.1074/jbc.m113.473348, doi:10.1074/jbc.m113.473348. This article has 35 citations.
17. (habib2022tinkertailortumour pages 1-2): Elias B. Habib, Sabateeshan Mathavarajah, and Graham Dellaire. Tinker, tailor, tumour suppressor: the many functions of prp4k. Frontiers in Genetics, Feb 2022. URL: https://doi.org/10.3389/fgene.2022.839963, doi:10.3389/fgene.2022.839963. This article has 7 citations and is from a peer-reviewed journal.
18. (habib2022tinkertailortumour pages 11-12): Elias B. Habib, Sabateeshan Mathavarajah, and Graham Dellaire. Tinker, tailor, tumour suppressor: the many functions of prp4k. Frontiers in Genetics, Feb 2022. URL: https://doi.org/10.3389/fgene.2022.839963, doi:10.3389/fgene.2022.839963. This article has 7 citations and is from a peer-reviewed journal.
19. (habib2022tinkertailortumour pages 2-3): Elias B. Habib, Sabateeshan Mathavarajah, and Graham Dellaire. Tinker, tailor, tumour suppressor: the many functions of prp4k. Frontiers in Genetics, Feb 2022. URL: https://doi.org/10.3389/fgene.2022.839963, doi:10.3389/fgene.2022.839963. This article has 7 citations and is from a peer-reviewed journal.
20. (habib2022tinkertailortumour pages 3-4): Elias B. Habib, Sabateeshan Mathavarajah, and Graham Dellaire. Tinker, tailor, tumour suppressor: the many functions of prp4k. Frontiers in Genetics, Feb 2022. URL: https://doi.org/10.3389/fgene.2022.839963, doi:10.3389/fgene.2022.839963. This article has 7 citations and is from a peer-reviewed journal.
21. (habib2022tinkertailortumour pages 4-6): Elias B. Habib, Sabateeshan Mathavarajah, and Graham Dellaire. Tinker, tailor, tumour suppressor: the many functions of prp4k. Frontiers in Genetics, Feb 2022. URL: https://doi.org/10.3389/fgene.2022.839963, doi:10.3389/fgene.2022.839963. This article has 7 citations and is from a peer-reviewed journal.
22. (habib2022tinkertailortumour pages 7-9): Elias B. Habib, Sabateeshan Mathavarajah, and Graham Dellaire. Tinker, tailor, tumour suppressor: the many functions of prp4k. Frontiers in Genetics, Feb 2022. URL: https://doi.org/10.3389/fgene.2022.839963, doi:10.3389/fgene.2022.839963. This article has 7 citations and is from a peer-reviewed journal.
23. (habib2022tinkertailortumour pages 9-10): Elias B. Habib, Sabateeshan Mathavarajah, and Graham Dellaire. Tinker, tailor, tumour suppressor: the many functions of prp4k. Frontiers in Genetics, Feb 2022. URL: https://doi.org/10.3389/fgene.2022.839963, doi:10.3389/fgene.2022.839963. This article has 7 citations and is from a peer-reviewed journal.
24. (kanno2018prp4kaaputative pages 1-2): Tatsuo Kanno, Peter Venhuizen, Tuan-Nan Wen, Wen-Dar Lin, Phebe Chiou, Maria Kalyna, Antonius J M Matzke, and Marjori Matzke. Prp4ka, a putative spliceosomal protein kinase, is important for alternative splicing and development in arabidopsis thaliana. Genetics, 210:1267-1285, Oct 2018. URL: https://doi.org/10.1534/genetics.118.301515, doi:10.1534/genetics.118.301515. This article has 31 citations and is from a domain leading peer-reviewed journal.
25. (kanno2018prp4kaaputative pages 15-16): Tatsuo Kanno, Peter Venhuizen, Tuan-Nan Wen, Wen-Dar Lin, Phebe Chiou, Maria Kalyna, Antonius J M Matzke, and Marjori Matzke. Prp4ka, a putative spliceosomal protein kinase, is important for alternative splicing and development in arabidopsis thaliana. Genetics, 210:1267-1285, Oct 2018. URL: https://doi.org/10.1534/genetics.118.301515, doi:10.1534/genetics.118.301515. This article has 31 citations and is from a domain leading peer-reviewed journal.
26. (mikolaskova2021identificationofnrl1 pages 16-18): B. Mikolaskova, M. Jurcik, Ingrid Cipakova, Tomas Selicky, Jan Jurcik, S. Polakova, Erika Stupenova, A. Dudas, B. Sivakova, J. Bellová, P. Baráth, L. Aronica, J. Gregan, and L. Cipak. Identification of nrl1 domains responsible for interactions with rna-processing factors and regulation of nrl1 function by phosphorylation. International Journal of Molecular Sciences, Jun 2021. URL: https://doi.org/10.3390/ijms22137011, doi:10.3390/ijms22137011. This article has 6 citations and is from a peer-reviewed journal.
27. (swale2021adrugrepurposing pages 4-6): Christopher Swale, Valeria Bellini, Matthew W. Bowler, Nardella Flore, Marie-Pierre Brenier-Pinchart, Dominique Cannella, Lucid Belmudes, Caroline Mas, Yohann Couté, Fabrice Laurent, Artur Scherf, Alexandre Bougdour, and Mohamed-Ali Hakimi. A drug repurposing screen identifies altiratinib as a selective inhibitor of a key regulatory splicing kinase and a potential therapeutic for toxoplasmosis and malaria. BioRxiv, Nov 2021. URL: https://doi.org/10.1101/2021.11.03.467097, doi:10.1101/2021.11.03.467097. This article has 2 citations.
28. (dardick2006plantandanimal pages 6-7): Christopher Dardick and Pamela Ronald. Plant and animal pathogen recognition receptors signal through non-rd kinases. PLoS Pathogens, 2:e2, Jan 2006. URL: https://doi.org/10.1371/journal.ppat.0020002, doi:10.1371/journal.ppat.0020002. This article has 325 citations and is from a highest quality peer-reviewed journal.
29. (dellaire2002mammalianprp4kinase pages 2-2): Graham Dellaire, Evgeny M. Makarov, JeffJ.M. Cowger, Dasa Longman, Heidi G. E. Sutherland, Reinhard Lührmann, Joseph Torchia, and Wendy A. Bickmore. Mammalian prp4 kinase copurifies and interacts with components of both the u5 snrnp and the n-cor deacetylase complexes. Molecular and Cellular Biology, 22:5141-5156, Jul 2002. URL: https://doi.org/10.1128/mcb.22.14.5141-5156.2002, doi:10.1128/mcb.22.14.5141-5156.2002. This article has 118 citations and is from a domain leading peer-reviewed journal.
30. (dellaire2002mammalianprp4kinase pages 2-4): Graham Dellaire, Evgeny M. Makarov, JeffJ.M. Cowger, Dasa Longman, Heidi G. E. Sutherland, Reinhard Lührmann, Joseph Torchia, and Wendy A. Bickmore. Mammalian prp4 kinase copurifies and interacts with components of both the u5 snrnp and the n-cor deacetylase complexes. Molecular and Cellular Biology, 22:5141-5156, Jul 2002. URL: https://doi.org/10.1128/mcb.22.14.5141-5156.2002, doi:10.1128/mcb.22.14.5141-5156.2002. This article has 118 citations and is from a domain leading peer-reviewed journal.
31. (dellaire2002mammalianprp4kinase pages 5-8): Graham Dellaire, Evgeny M. Makarov, JeffJ.M. Cowger, Dasa Longman, Heidi G. E. Sutherland, Reinhard Lührmann, Joseph Torchia, and Wendy A. Bickmore. Mammalian prp4 kinase copurifies and interacts with components of both the u5 snrnp and the n-cor deacetylase complexes. Molecular and Cellular Biology, 22:5141-5156, Jul 2002. URL: https://doi.org/10.1128/mcb.22.14.5141-5156.2002, doi:10.1128/mcb.22.14.5141-5156.2002. This article has 118 citations and is from a domain leading peer-reviewed journal.
32. (dellaire2002mammalianprp4kinase pages 8-10): Graham Dellaire, Evgeny M. Makarov, JeffJ.M. Cowger, Dasa Longman, Heidi G. E. Sutherland, Reinhard Lührmann, Joseph Torchia, and Wendy A. Bickmore. Mammalian prp4 kinase copurifies and interacts with components of both the u5 snrnp and the n-cor deacetylase complexes. Molecular and Cellular Biology, 22:5141-5156, Jul 2002. URL: https://doi.org/10.1128/mcb.22.14.5141-5156.2002, doi:10.1128/mcb.22.14.5141-5156.2002. This article has 118 citations and is from a domain leading peer-reviewed journal.
33. (gao2013evaluationofcancer pages 7-8): Q. Gao, I. Mechin, N. Kothari, Zhuyan Guo, G. Deng, K. Haas, Jessica Mcmanus, Dietmar Hoffmann, Anlai Wang, D. Wiederschain, J. Rocnik, Werngard Czechtizky, Xin Chen, L. McLean, H. Arlt, David P. Harper, Feng Liu, T. Majid, Vinod F. Patel, C. Lengauer, C. García-echeverría, Bailin Zhang, Hong Cheng, M. Dorsch, and Shih-Min A. Huang. Evaluation of cancer dependence and druggability of prp4 kinase using cellular, biochemical, and structural approaches. The Journal of Biological Chemistry, 288:30125-30138, Sep 2013. URL: https://doi.org/10.1074/jbc.m113.473348, doi:10.1074/jbc.m113.473348. This article has 35 citations.
34. (habib2022tinkertailortumour pages 6-7): Elias B. Habib, Sabateeshan Mathavarajah, and Graham Dellaire. Tinker, tailor, tumour suppressor: the many functions of prp4k. Frontiers in Genetics, Feb 2022. URL: https://doi.org/10.3389/fgene.2022.839963, doi:10.3389/fgene.2022.839963. This article has 7 citations and is from a peer-reviewed journal.
35. (johnson2023anatlasof pages 2-3): Jared L. Johnson, Tomer M. Yaron, Emily M. Huntsman, Alexander Kerelsky, Junho Song, Amit Regev, Ting-Yu Lin, Katarina Liberatore, Daniel M. Cizin, Benjamin M. Cohen, Neil Vasan, Yilun Ma, Konstantin Krismer, Jaylissa Torres Robles, Bert van de Kooij, Anne E. van Vlimmeren, Nicole Andrée-Busch, Norbert F. Käufer, Maxim V. Dorovkov, Alexey G. Ryazanov, Yuichiro Takagi, Edward R. Kastenhuber, Marcus D. Goncalves, Benjamin D. Hopkins, Olivier Elemento, Dylan J. Taatjes, Alexandre Maucuer, Akio Yamashita, Alexei Degterev, Mohamed Uduman, Jingyi Lu, Sean D. Landry, Bin Zhang, Ian Cossentino, Rune Linding, John Blenis, Peter V. Hornbeck, Benjamin E. Turk, Michael B. Yaffe, and Lewis C. Cantley. An atlas of substrate specificities for the human serine/threonine kinome. Nature, 613:759-766, Jan 2023. URL: https://doi.org/10.1038/s41586-022-05575-3, doi:10.1038/s41586-022-05575-3. This article has 436 citations and is from a highest quality peer-reviewed journal.
36. (johnson2023anatlasof pages 21-23): Jared L. Johnson, Tomer M. Yaron, Emily M. Huntsman, Alexander Kerelsky, Junho Song, Amit Regev, Ting-Yu Lin, Katarina Liberatore, Daniel M. Cizin, Benjamin M. Cohen, Neil Vasan, Yilun Ma, Konstantin Krismer, Jaylissa Torres Robles, Bert van de Kooij, Anne E. van Vlimmeren, Nicole Andrée-Busch, Norbert F. Käufer, Maxim V. Dorovkov, Alexey G. Ryazanov, Yuichiro Takagi, Edward R. Kastenhuber, Marcus D. Goncalves, Benjamin D. Hopkins, Olivier Elemento, Dylan J. Taatjes, Alexandre Maucuer, Akio Yamashita, Alexei Degterev, Mohamed Uduman, Jingyi Lu, Sean D. Landry, Bin Zhang, Ian Cossentino, Rune Linding, John Blenis, Peter V. Hornbeck, Benjamin E. Turk, Michael B. Yaffe, and Lewis C. Cantley. An atlas of substrate specificities for the human serine/threonine kinome. Nature, 613:759-766, Jan 2023. URL: https://doi.org/10.1038/s41586-022-05575-3, doi:10.1038/s41586-022-05575-3. This article has 436 citations and is from a highest quality peer-reviewed journal.
37. (johnson2023anatlasof pages 3-4): Jared L. Johnson, Tomer M. Yaron, Emily M. Huntsman, Alexander Kerelsky, Junho Song, Amit Regev, Ting-Yu Lin, Katarina Liberatore, Daniel M. Cizin, Benjamin M. Cohen, Neil Vasan, Yilun Ma, Konstantin Krismer, Jaylissa Torres Robles, Bert van de Kooij, Anne E. van Vlimmeren, Nicole Andrée-Busch, Norbert F. Käufer, Maxim V. Dorovkov, Alexey G. Ryazanov, Yuichiro Takagi, Edward R. Kastenhuber, Marcus D. Goncalves, Benjamin D. Hopkins, Olivier Elemento, Dylan J. Taatjes, Alexandre Maucuer, Akio Yamashita, Alexei Degterev, Mohamed Uduman, Jingyi Lu, Sean D. Landry, Bin Zhang, Ian Cossentino, Rune Linding, John Blenis, Peter V. Hornbeck, Benjamin E. Turk, Michael B. Yaffe, and Lewis C. Cantley. An atlas of substrate specificities for the human serine/threonine kinome. Nature, 613:759-766, Jan 2023. URL: https://doi.org/10.1038/s41586-022-05575-3, doi:10.1038/s41586-022-05575-3. This article has 436 citations and is from a highest quality peer-reviewed journal.
38. (johnson2023anatlasof pages 4-4): Jared L. Johnson, Tomer M. Yaron, Emily M. Huntsman, Alexander Kerelsky, Junho Song, Amit Regev, Ting-Yu Lin, Katarina Liberatore, Daniel M. Cizin, Benjamin M. Cohen, Neil Vasan, Yilun Ma, Konstantin Krismer, Jaylissa Torres Robles, Bert van de Kooij, Anne E. van Vlimmeren, Nicole Andrée-Busch, Norbert F. Käufer, Maxim V. Dorovkov, Alexey G. Ryazanov, Yuichiro Takagi, Edward R. Kastenhuber, Marcus D. Goncalves, Benjamin D. Hopkins, Olivier Elemento, Dylan J. Taatjes, Alexandre Maucuer, Akio Yamashita, Alexei Degterev, Mohamed Uduman, Jingyi Lu, Sean D. Landry, Bin Zhang, Ian Cossentino, Rune Linding, John Blenis, Peter V. Hornbeck, Benjamin E. Turk, Michael B. Yaffe, and Lewis C. Cantley. An atlas of substrate specificities for the human serine/threonine kinome. Nature, 613:759-766, Jan 2023. URL: https://doi.org/10.1038/s41586-022-05575-3, doi:10.1038/s41586-022-05575-3. This article has 436 citations and is from a highest quality peer-reviewed journal.
39. (johnson2023anatlasof pages 6-7): Jared L. Johnson, Tomer M. Yaron, Emily M. Huntsman, Alexander Kerelsky, Junho Song, Amit Regev, Ting-Yu Lin, Katarina Liberatore, Daniel M. Cizin, Benjamin M. Cohen, Neil Vasan, Yilun Ma, Konstantin Krismer, Jaylissa Torres Robles, Bert van de Kooij, Anne E. van Vlimmeren, Nicole Andrée-Busch, Norbert F. Käufer, Maxim V. Dorovkov, Alexey G. Ryazanov, Yuichiro Takagi, Edward R. Kastenhuber, Marcus D. Goncalves, Benjamin D. Hopkins, Olivier Elemento, Dylan J. Taatjes, Alexandre Maucuer, Akio Yamashita, Alexei Degterev, Mohamed Uduman, Jingyi Lu, Sean D. Landry, Bin Zhang, Ian Cossentino, Rune Linding, John Blenis, Peter V. Hornbeck, Benjamin E. Turk, Michael B. Yaffe, and Lewis C. Cantley. An atlas of substrate specificities for the human serine/threonine kinome. Nature, 613:759-766, Jan 2023. URL: https://doi.org/10.1038/s41586-022-05575-3, doi:10.1038/s41586-022-05575-3. This article has 436 citations and is from a highest quality peer-reviewed journal.
40. (johnson2023anatlasof pages 7-7): Jared L. Johnson, Tomer M. Yaron, Emily M. Huntsman, Alexander Kerelsky, Junho Song, Amit Regev, Ting-Yu Lin, Katarina Liberatore, Daniel M. Cizin, Benjamin M. Cohen, Neil Vasan, Yilun Ma, Konstantin Krismer, Jaylissa Torres Robles, Bert van de Kooij, Anne E. van Vlimmeren, Nicole Andrée-Busch, Norbert F. Käufer, Maxim V. Dorovkov, Alexey G. Ryazanov, Yuichiro Takagi, Edward R. Kastenhuber, Marcus D. Goncalves, Benjamin D. Hopkins, Olivier Elemento, Dylan J. Taatjes, Alexandre Maucuer, Akio Yamashita, Alexei Degterev, Mohamed Uduman, Jingyi Lu, Sean D. Landry, Bin Zhang, Ian Cossentino, Rune Linding, John Blenis, Peter V. Hornbeck, Benjamin E. Turk, Michael B. Yaffe, and Lewis C. Cantley. An atlas of substrate specificities for the human serine/threonine kinome. Nature, 613:759-766, Jan 2023. URL: https://doi.org/10.1038/s41586-022-05575-3, doi:10.1038/s41586-022-05575-3. This article has 436 citations and is from a highest quality peer-reviewed journal.
41. (pastor2021interplaybetweencmgc pages 17-17): Florentin Pastor, Lulzim Shkreta, Benoit Chabot, David Durantel, and Anna Salvetti. Interplay between cmgc kinases targeting sr proteins and viral replication: splicing and beyond. Frontiers in Microbiology, Mar 2021. URL: https://doi.org/10.3389/fmicb.2021.658721, doi:10.3389/fmicb.2021.658721. This article has 25 citations and is from a peer-reviewed journal.
42. (pastor2021interplaybetweencmgc pages 3-5): Florentin Pastor, Lulzim Shkreta, Benoit Chabot, David Durantel, and Anna Salvetti. Interplay between cmgc kinases targeting sr proteins and viral replication: splicing and beyond. Frontiers in Microbiology, Mar 2021. URL: https://doi.org/10.3389/fmicb.2021.658721, doi:10.3389/fmicb.2021.658721. This article has 25 citations and is from a peer-reviewed journal.
43. (pastor2021interplaybetweencmgc pages 7-9): Florentin Pastor, Lulzim Shkreta, Benoit Chabot, David Durantel, and Anna Salvetti. Interplay between cmgc kinases targeting sr proteins and viral replication: splicing and beyond. Frontiers in Microbiology, Mar 2021. URL: https://doi.org/10.3389/fmicb.2021.658721, doi:10.3389/fmicb.2021.658721. This article has 25 citations and is from a peer-reviewed journal.
44. (swale2021adrugrepurposing pages 40-41): Christopher Swale, Valeria Bellini, Matthew W. Bowler, Nardella Flore, Marie-Pierre Brenier-Pinchart, Dominique Cannella, Lucid Belmudes, Caroline Mas, Yohann Couté, Fabrice Laurent, Artur Scherf, Alexandre Bougdour, and Mohamed-Ali Hakimi. A drug repurposing screen identifies altiratinib as a selective inhibitor of a key regulatory splicing kinase and a potential therapeutic for toxoplasmosis and malaria. BioRxiv, Nov 2021. URL: https://doi.org/10.1101/2021.11.03.467097, doi:10.1101/2021.11.03.467097. This article has 2 citations.
45. (swale2021adrugrepurposing pages 45-47): Christopher Swale, Valeria Bellini, Matthew W. Bowler, Nardella Flore, Marie-Pierre Brenier-Pinchart, Dominique Cannella, Lucid Belmudes, Caroline Mas, Yohann Couté, Fabrice Laurent, Artur Scherf, Alexandre Bougdour, and Mohamed-Ali Hakimi. A drug repurposing screen identifies altiratinib as a selective inhibitor of a key regulatory splicing kinase and a potential therapeutic for toxoplasmosis and malaria. BioRxiv, Nov 2021. URL: https://doi.org/10.1101/2021.11.03.467097, doi:10.1101/2021.11.03.467097. This article has 2 citations.