

Molecular Omics

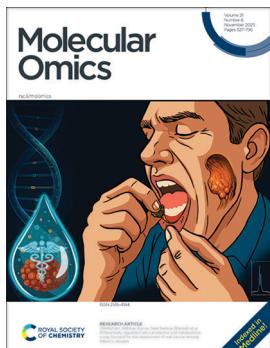
Research and reviews in omic sciences, including genomics, proteomics, transcriptomics, metabolomics, glycomics and lipidomics

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See Chintamani, Abhinav Kumar, Neel Sarovar Bhavesh et al., pp. 594–606. Image created by Dr Krishn Verma and reproduced by permission of Prof. Neel Sarovar Bhavesh from *Mol. Omics*, 2025, 21, 594.



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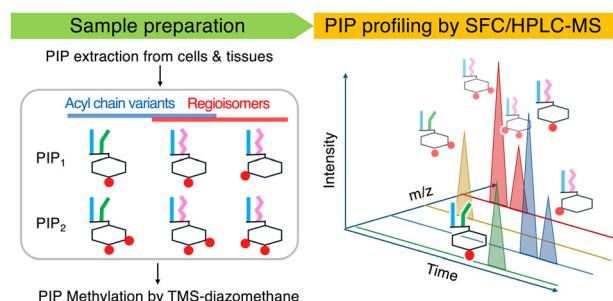
See Dharmendra Singh Bhaduria, Neeraj Sinha et al., pp. 607–620. Image reproduced by permission of Neeraj Sinha from *Mol. Omics*, 2025, 21, 607.

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Diverse Single-Cell Omics Technologies

Genomics, Epigenomics, Transcriptomics, Proteomics

Key Deep Learning Architectures

Neural Networks, Convolutional Neural Networks, Autoencoders (and VAEs), Generative Adversarial Networks, Graph Neural Networks

Deep Learning Tools

e.g., sciCAN, scGAL, scMSI, scMDC, scMaul, SAILERX, scGEMOC, scHGA, MarsGT, MinNet, scGPT, scDART

Challenges and Future Directions

Enhance interpretability, computing requirements, labeled datasets, federated learning.



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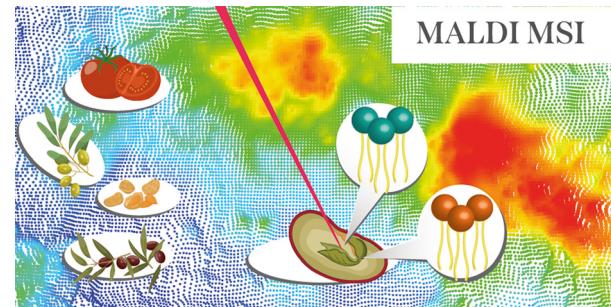


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MALDI mass spectrometry imaging in plant and food lipidomics: advances, challenges, and future perspectives

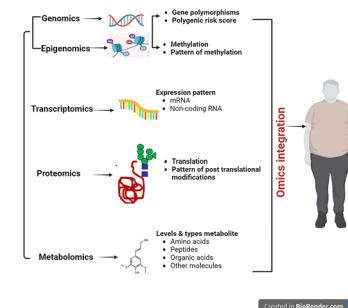
G. Ventura, M. Bianco, I. Losito, T. R. I. Cataldi and C. D. Calvano*
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The omics revolution in obesity: from molecular signatures to clinical solutions

Mohammad Mustafa, Amr A. Arafat, Waleed Alhazzani, Faisal Kunnathodi, Sarfuddin Azmi, Riyasdeen Anvarbatcha, Ishtiaque Ahmad and Haifa F. Alotaibi*

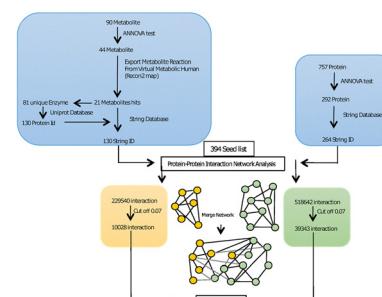


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Differentially regulated saliva proteome and metabolome: a way forward for risk-assessment of oral cancer among tobacco abusers

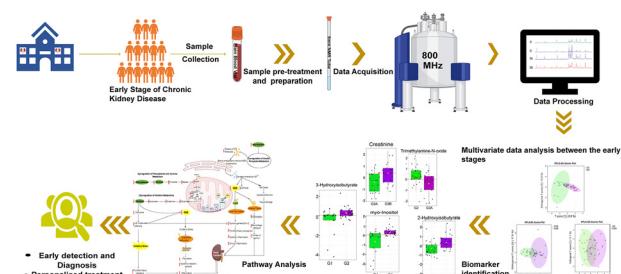
Bolaji Fatai Oyeyemi, Shruti Dabral, Amit Paramaraj, Sandhya Srinivasan, Gagan Deep Jhingan, Dhiraj Kumar, Chintamani,* Abhinav Kumar* and Néel Sarovar Bhavesh*



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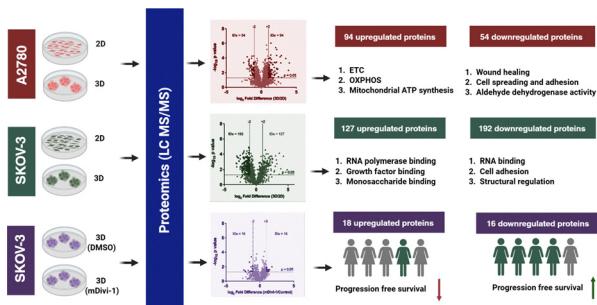
Characterizing metabolic dysregulation in early-stage chronic kidney disease for diagnostic insights

Upasna Gupta, Amrita Sahu, Dharmendra Singh Bhaduria,* Bikash Baishya and Neeraj Sinha*



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Manita Raina, Tejan Lodhiya, Rahail Ashraf, Kalpana Tankay, Arunaja K., Raju Mukherjee* and Sanjay Kumar*

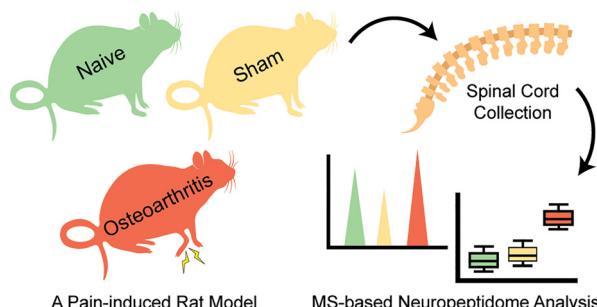
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Ana Cláudia Raposo, Sheryl Joyce B. Grijaldo-Alvarez, Gege Xu, Michael Russelle S. Alvarez, Carlito B. Lebrilla, Ricardo Wagner Portela and Arianne Oriá*

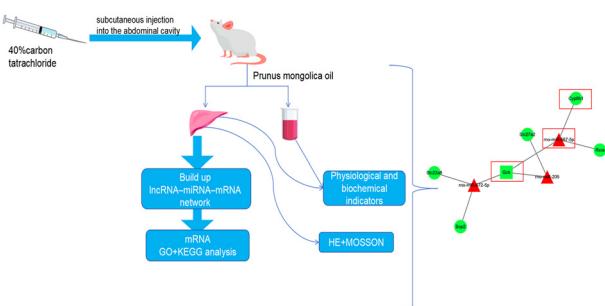
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Prunus mongolica oil attenuates hepatic fibrosis via a lncRNA-mediated ceRNA network targeting dual PGC-1 α /PPAR γ and TGF- β /Smad3 pathways

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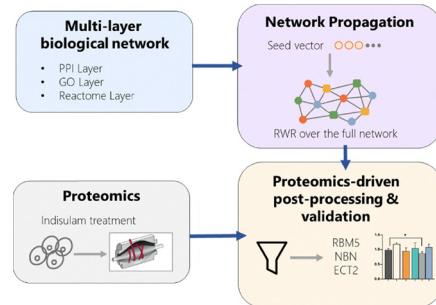


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Network-driven identification of indisulam neo-substrates for targeted protein degradation

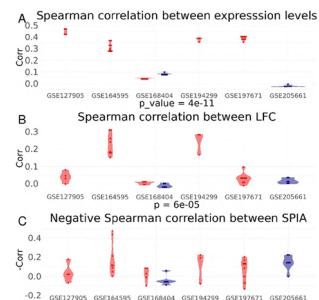
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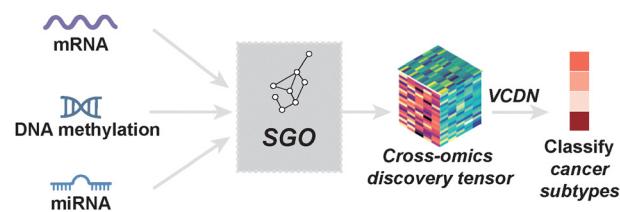
Nicolas Borisov, Yaroslav Ilnytsky, Boseon Byeon, Olga Kovalchuk* and Igor Kovalchuk*



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MOFNet: a deep learning framework for multi-omics data fusion in cancer subtype classification

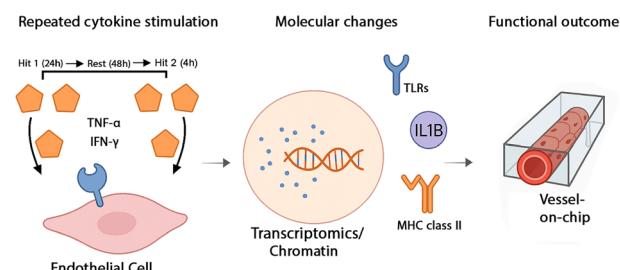
Guangji Zhang, Chunxiao Zhang, Pengpai Li, Duanchen Sun, Zhixia Yang and Zhi-Ping Liu*



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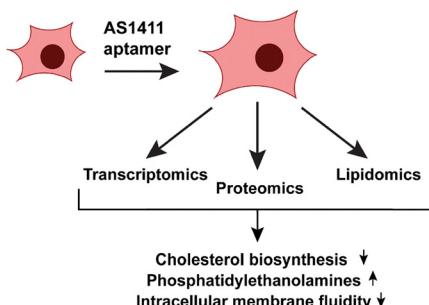
Cytokine-induced memory-like responses in endothelial cells link chronic inflammation to vascular disease risk

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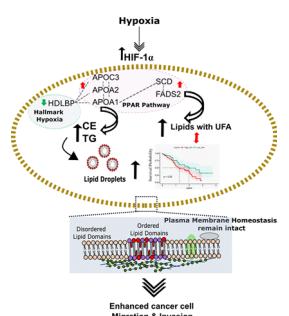
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Nucleolin perturbation alters membrane lipid homeostasis

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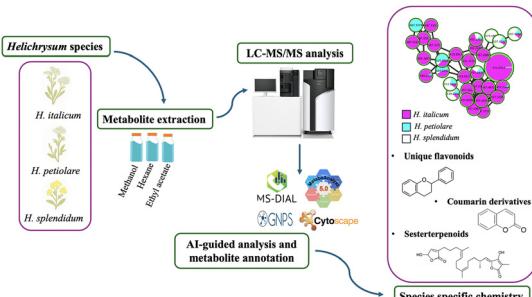
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Hypoxia-induced alterations in lipid polyunsaturation and associated proteins drive aggressive metastasis in pancreatic cancer via the PPAR/hypoxia pathway

Prema Kumari Agarwala, Avinash Singh, Sanjeeva Srivastava and Shobhna Kapoor*

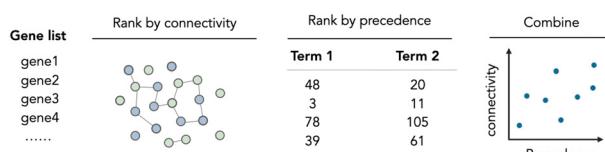
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DeSciDe: a tool for unbiased literature searching and gene list curation unveils a new role for the acidic patch mutation H2A E92K

Cameron J. Douglas and Ciaran P. Seath*



STUB1 (CHIP) – a prognostic marker in cancer

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Mrinal K Ghosh*

