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Area of Expertise

My research interests include cancer biology aimed at understanding the molecular and cellular mechanisms that contribute to tumor progression and metastasis. My research is focused on the role of a protein called Tip110/Sart3 in melanoma (skin cancer) and glioblastoma (brain cancer) development and regulation of the protein in a subset population of cells called tumor-initiating cells that are resistant to cancer treatment. The function of Tip110 is multifarious, ranging from modulation of tumor antigenicity, gene regulation, and stem cell biology to development of the embryo. My team demonstrated that Tip110 interacts with and/or regulates several oncogenic proteins that have the potential to cause cancer, including cytokines--inflammatory proteins which are known to play an important role in cancer progression. Our data showed a strong correlation between the Tip110 expression level and the clinical outcome in people with melanoma and glioblastoma. Based on these findings, we employ multifaceted experimental approaches, using animal models, to investigate the molecular mechanisms and biological significance of Tip110 in controlling cellular processes, including cancer, and we hope to provide new clues for future therapeutics strategies.

Qualifications

PhD in Biochemistry & Molecular Biology, Wuhan University
MS in Biochemistry, Aigarh Mo University
BS in Biochemistry, Aigarh Mo University

Recent Publications

Correction to: Tat expression led to increased histone 3 tri-methylation at lysine 27 and contributed to HIV latency in astrocytes through regulation of MeCP2 and Ezh2 expression (Journal of NeuroVirology, (2019), 10.1007/s13365-019-00751-0)

Liu, Y., Niu, Y., Li, L., Timani, K. A., He, V. L., Sanborn, C., Xie, J. & He, J. J., 1 Jan 2019, In : Journal of NeuroVirology.

Tat expression led to increased histone 3 tri-methylation at lysine 27 and contributed to HIV latency in astrocytes through regulation of MeCP2 and Ezh2 expression

Liu, Y., Niu, Y., Li, L., Timani, K. A., He, V. L., Sanburns, C., Xie, J. & He, J. J., 1 Jan 2019, In : Journal of NeuroVirology.

Tip110/SART3 regulates IL-8 expression and predicts the clinical outcomes in melanoma

Timani, K. A., Gyorffy, B., Liu, Y., Mohammad, K. S. & He, J. J., 17 Aug 2018, In : Molecular Cancer. 17, 1, 124.

Regulation of Constitutive Tip110 Expression in Human Cord Blood CD34⁺ Cells Through Selective Usage of the Proximal and Distal Polyadenylation Sites Within the 3'Untranslated Region

Liu, Y., Huang, X., Timani, K. A., Broxmeyer, H. E. & He, J. J., 15 Apr 2018, In : Stem Cells and Development. 27, 8, p. 566-576 11 p.

miRNA regulation of Tip110 expression and self-renewal and differentiation of human CD34⁺ hematopoietic cells

Liu, Y., Huang, X., Timani, K. A., Broxmeyer, H. E. & He, J. J., 1 Jan 2018, In : Oncotarget. 9, 4, p. 4823-4832 10 p.

Tip110 Deletion Impaired Embryonic and Stem Cell Development Involving Downregulation of Stem Cell Factors Nanog, Oct4, and Sox2

Whitmill, A., Liu, Y., Timani, K. A., Niu, Y. & He, J. J., 1 Jul 2017, In : Stem Cells. 35, 7, p. 1674-1686 13 p.

Function of ubiquitin (Ub) specific protease 15 (USP15) in HIV-1 replication and viral protein degradation

Pyeon, D., Timani, K. A., Gulraiz, F., He, J. J. & Park, I., 2 Sep 2016, In : Virus Research. 223, p. 161-169 9 p.

Tip110: Physical properties, primary structure, and biological functions

Whitmill, A., Timani, K. A., Liu, Y. & He, J. J., 15 Mar 2016, In : Life Sciences. 149, p. 79-95 17 p.

MicroRNA-124 Targets Tip110 Expression and Regulates Hematopoiesis

Liu, Y., Huang, X., Timani, K. A., Broxmeyer, H. E. & He, J. J., 1 Sep 2015, In : Stem Cells and Development. 24, 17, p. 2009-2017 9 p.

Regulation of viral RNA synthesis by the V protein of parainfluenza virus 5

Yang, Y., Zengel, J., Sun, M., Sleeman, K., Timani, K. A., Aligo, J., Rota, P., Wu, J. & He, B., 1 Jan 2015, In : Journal of Virology. 89, 23, p. 11845-11857 13 p.

Sponsored Projects

HIV-1 Infection and Latency in Astrocytes

He, J., Timani, K. & Liu, Y.

NIDA: National Institute on Drug Abuse

1/09/16 → 31/07/21

miR-132, A New Player in HIV/neuroAIDS

He, J. & Timani, K.

NINDS: Neurological Disorders & Stroke

15/07/15 → 30/06/20

Tip110-mediated Regulation of IL-8 Secretion and Its Impact on Melanoma Tumorigenesis

Timani, K.

Intramural Research(UNTHSC)

1/06/17 → 31/05/18