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Microbiology, Immunology & Genetics
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Area of Expertise

Introduction of new HIV drugs has greatly improved the lifespan and the quality of life for people with HIV infection. However, it has also created new problems. Although the virus becomes undetectable when treated, it is not cured and continues to encode some molecules. Therefore, we have focused our research on these molecules. First, we wish to understand how these molecules affect the cells in the brain and the function of the brain where the HIV drugs have limited access. We are using specific mice that are modified to encode these molecules in our research. Second, we want to understand if or how these molecules affect the emergence of the “undetectable” virus in the cells and how we could harness those molecules to achieve HIV cure. Lastly, with increased lifespan and increased incidence of substance abuse in people with HIV infection, we are also interested in figuring out how these molecules alone or along with substances of abuse would affect the ageing process, the emergence of “undetectable virus, and development of HIV cure. Our research approach is mainly a combination of molecular biology, virology, cell biology, and genetically modified mice. Our ultimate goal is to contribute to development of a complete HIV cure.

Qualifications

PhD in Molecular Biology, New York University
MS in Molecular Biology, New York University
MS in Microbiology, China Agricultural 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.

Doxycycline-inducible and astrocyte-specific HIV-1 Tat transgenic mice (iTat) as an HIV/neuroAIDS model

Langford, D., Kim, B. O., Zou, W., Fan, Y., Rahimain, P., Liu, Y. & He, J. J., 15 Nov 2018, In : Journal of NeuroVirology. 24, 2, p. 168-179 12 p.

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.

Neo-clerodane diterpenoids from the whole plants of Scutellaria formosana

Chen, X., Chen, W., Chen, G., Han, C., He, J. J., Zhou, X., Yu, Z., Dai, C. & Song, X., 1 Jan 2018, In : Phytochemistry. 145, p. 1-9 9 p.

HIV/neuroAIDS biomarkers

Rahimian, P. & He, J. J., 1 Oct 2017, In : Progress in Neurobiology. 157, p. 117-132 16 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.

The anticancer drug sunitinib promotes autophagy and protects from neurotoxicity in an HIV-1 Tat model of neurodegeneration

Fields, J. A., Metcalf, J., Overk, C., Adame, A., Spencer, B., Wrasidlo, W., Florio, J., Rockenstein, E., He, J. J. & Masliah, E., 1 Apr 2017, In : Journal of NeuroVirology. 23, 2, p. 290-303 14 p.

Sponsored Projects

AAPI Pilot Data Gathering Program

He, J.

Synergy Enterprises, Inc.

22/07/13 → 30/10/15

GFAP as a Novel HIV/NeuroAIDS Biomarker

He, J.

NIMH: Mental Health

15/07/11 → 31/03/15

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

HIV Interaction with Drugs of Abuse and Adult Neurogenesis

He, J.

NIDA: National Institute on Drug Abuse

31/08/11 → 31/03/12

miR-132, A New Player in HIV/neuroAIDS

He, J. & Timani, K.

NINDS: Neurological Disorders & Stroke

15/07/15 → 30/06/20

Sam68 and HIV-1 Replication Control in Astrocytes

He, J.

NINDS: National Institute of Neurological Disorders and Stroke

1/02/11 → 31/01/12

Sam68 and HIV-1 Replication Control in Astrocytes

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NINDS: Neurological Disorders & Stroke

31/08/11 → 31/01/14

Texas Center of Minority Health, Education, Research and Outreach - Admin/Development Core

Vishwanatha, J., Jones, H., He, J., Basha, R. & Nandy, K.

NIMHD: Natl Institute on Minority Health

23/09/17 → 31/05/22

Texas Center of Minority Health, Education, Research and Outreach - Admin/Development Core

Vishwanatha, J., Jones, H., He, J., Basha, R., Nandy, K., Mallet, R., Krishnamoorthy, R. & Simecka, J.

NIMHD: Natl Institute on Minority Health

23/09/17 → 31/05/22

Texas Center of Minority Health, Education, Research and Outreach - Admin/Development Core

Vishwanatha, J., Mallet, R., Krishnamoorthy, R., Jones, H., Fulda, K., He, J., Basha, R. & Nandy, K.

NIMHD: Natl Institute on Minority Health

23/09/17 → 31/05/22

Texas Minority Health, Education, Research, and Outreach (Texas MiHERO)

Vishwanatha, J., Knebl, J., Raines-Milenkov, A., Cunningham, T., He, J., Spence-Almaquer, E., Clay, P. & Basha, R.

NIMHD: Natl Institute on Minority Health

14/09/17 → 30/06/22

UNTHSC-IMSD

He, J., Jones, H., Vishwanatha, J. & He, J.

NIGMS: General Medical Sciences

1/02/18 → 31/01/23

Workshop: Tobacco Smoking, HIV/AIDS and Cancer in Health Disparity Population

He, J.

NAPAFASA

1/06/12 → 11/07/12