



Biomarkers and new adjuvant treatment for HIV-Associated Neurocognitive Disorders

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HIGHLIGHTS

- Potential to predict the development of HIV-associated neurocognitive disorder (HAND)
- Potentially treat HIV patients with HAND or at high risk of HAND development
- Creates the possibility to monitor disease/treatment progress for HIV-HAND

OPPORTUNITY

HIV-associated neurocognitive disorders (HAND) represent a spectrum neurological syndrome that affects up to 25% of patients with HIV/AIDS. Based on the relationship between HIV and a decrease in peroxisome activity, researchers at the University of Alberta have developed a method to measure biomarkers for HAND including (i) determining the levels of 4 microRNA (miRNA) sequences that downregulate expression of peroxins; (ii) measuring peroxisomal activity biomarkers; or (iii) measuring levels of peroxisomal enzyme substrates. In the case of HIV patients with HAND or at high risk for development of HAND, this creates potential to increase peroxisome activity and thus ameliorate the development of HAND symptoms. For example, approved peroxisome proliferator-activated receptor- α (PPAR α) agonists such as fenofibrate may be useful.

COLLABORATIVE DEVELOPMENT AND LICENSING OPPORTUNITIES

- Potential prognosis, monitoring of HAND using biomarker levels in blood, plasma, serum or CSF
- Potential to prevent or delay the onset of HAND in HIV patients at risk using PPAR α agonists or other peroxisome inducers

STATUS

- Early stage collaboration opportunity
- [U.S. Patent Application Granted No. 16/606,665](#)
- [Xu, Zaikun, et al. "MicroRNAs upregulated during HIV infection target peroxisome biogenesis factors: Implications for virus biology, disease mechanisms and neuropathology." PLoS pathogens 13.6 \(2017\): e1006360.](#)

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MORE INFORMATION

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