Broad mitochondrial effects of HIV therapeutics

Position Description:

A postdoctoral position is immediately available in the Mitochondria Toxicology and Biology Group (MTBG https://www.niehs.nih.gov/research/atniehs/labs/mtb/staff/santos) in the Mechanistic Toxicology Branch of the Division of Translational Toxicology (DTT) at NIEHS located at the Research Triangle Park, North Carolina. The project aims at establishing the degree to which antiretroviral agents used to treat HIV have broad mitochondrial-driven effects. Focus has been on effects at time of exposure and long-term outcomes upon drug continuation or withdrawal on maternal and offspring health using rodent models. These studies support our efforts in understanding modulation of mitochondrial function, beyond toxic levels, to the health effects of environmental exposures. The *in vivo* part of the studies, which was done in pregnant mice or rats and their offspring, has already been conducted. The work will initially involve work on tissues (primarily liver, potentially kidney) and the use of *in vitro* 2D and 3D rodent and human iPS-derived models; it will eventually expand to more complex *in vitro* systems including organoids co-cultures and microfluidics. Detailed mechanisms will be explored with a combination of biochemistry, imaging, molecular biology and genomics approaches. The successful candidate will have a strong background in complex *in vitro* systems, particularly in the use of hepatocytes and co-culture models. Knowledge on maternal exposure paradigms using animals is strongly desired. The candidate will be versed in mitochondrial metabolism and associated assays. Experience with deep sequencing techniques (library preparation and data analysis) is desired but not required. The candidate will have access to state-of-the-art equipment, including the Seahorse flux analyzer, digital PCR, capillary electrophoresis, the Opera phenix high content imager confocal microscope, the Emulate microfluidic system and the Maestro Pro microelectrode impedance-based array, among others. Strong communication and written skills are desired and ability to work as part of a team is a must. The candidate will initiate by writing reports/manuscripts from previous work already completed on reproductive toxicology assessments, while familiarizing with current studies.

The postdoctoral fellow will be funded by the Office of AIDS Research through the DTT, which typically sponsors fellowships for three years, with the potential to extension. Stipends are commensurate to experience. Postdoctoral fellows are considered as professionals-in-training and are not classified as NIH employees. Medical insurance is provided. The position is immediately available and will be open until filled; it requires US citizenship or permanent residency status in the US.

Qualifications:

- Doctoral degree in biochemistry, physiology, or closely related discipline;
- Experience in cell culture, including use of iPS-derived cells and complex *in vitro* systems;
- Knowledge of mitochondrial function desirable.

To Apply:

Interested candidates with required experience should send a single PDF containing a cover letter indicating experience and research interests, CV and 3 reference letters to Dr Janine Santos (email janine.santos@nih.gov).