

GLOBAL APPLIED MICROBIOLOGY CONFERENCE

International Congress on &

MICROBIAL & BIOCHEMICAL RESEARCH AND TECHNOLOGIESOctober 18-19, 2017
Toronto, Canada

Khaled Barakat


*University of Alberta, Canada***Rational design of small molecule immune checkpoints' inhibitors: The PD-1 challenge**

Blocking the PD-1/PD-L1 pathway recently emerged as a 'game changer' in cancer immunotherapy, leading to the selection of monoclonal-antibodies (MABs) targeting PD-1 as 'drug of the year' for 2013. Although these antibodies restored exhausted T cells' function to recognize and kill tumor cells, these MABs have numerous disadvantages. These include their very high cost and very severe side effects. Our team has been focused on designing small molecule inhibitors for this pathway. Compared to available MAB therapies, our small molecules may offer a more affordable; more easily administered and better controlled treatment for a variety of cancers. Here, we demonstrate our efforts toward this goal and summarize preliminary data on one of our promising compounds, a small molecule inhibitor for the PD-1/PD-L1 pathway that binds to

PD-1 and restores the polyfunctionality of exhausted T cells..

Speaker Biography

Khaled Barakat is the Leader of a multidisciplinary world-class research team to develop novel immunotherapy drugs targeting the immune checkpoints' proteins. He received his PhD in Biophysics from the University of Alberta in 2012 followed by a Post-doctoral fellowship in Professor Michael Houghton's Lab for two years. During his career, he received numerous awards including the CIHR and AIHS Post-doctoral fellowships, the prestigious UofA dissertation award, the ACRI Studentship and many distinction awards throughout his undergraduate and graduate studies. He also served as an editor for a number of journals. His lab is supported by different funding agencies including the Alberta Cancer Foundation, Li Ka Shing Applied Virology Institute, Natural Sciences and Engineering Research Council (NSERC), Li Ka Shing Institute of Virology and IC-IMPACTS Centres of Excellence.

e: kbarakat@ualberta.ca Notes: