Kiven E. Lukong et al., Madridge J Cancer Stud Res. 2017
http://dx.doi.org/10.18689/2640-5180.a2.002

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2nd International
Cancer Study & Therapy Conference

February 20-22, 2017 Baltimore, USA

Potential clinical implications of breast tumor kinase in ER-positive breast cancers

Kiven E. Lukong, Sayem Miah and **Gerald Davies**
Department of Biochemistry, College of Medicine, University of Saskatchewan, Canada

Breast cancer is a heterogeneous disease that can be stratified based on the expression of molecular markers such estrogen receptor (ER), progesterone receptor and epidermal growth factor receptor 2. The movement toward targeted therapies has led to the development of drugs that block the function of some of these receptors as well as proteins associated with cancer formation and progression, including some non-receptor tyrosine kinases. Breast tumor kinase (BRK) is a non-receptor tyrosine kinase expressed in the majority of human breast tumors and breast cancer cell lines, but its expression has not been detected in normal mammary gland. The overexpression of BRK has been shown to sensitize mammary epithelial cells to mitogenic signaling and to promote cell proliferation and tumor formation. However, there are still several unanswered questions about the cellular and physiological roles of BRK and its clinical implications in breast cancers. I will discuss our recent data highlighting the role of BRK in breast tumor progression, as well as the potential clinical implications of BRK in anti-hormonal drug resistant ER-positive breast cancers.

Biography:

Dr. Kiven Erique Lukong received his Ph.D. degree in biochemistry from the University of Montreal in Canada and pursued his post-doctoral training first at Harvard Medical School, U.S.A. and later at McGill University (Canada). He is currently an Associate Professor in the Department of Biochemistry at the University of Saskatchewan (U of S, Canada) since 2009 and a member of the Cancer Research Cluster at the U of S. Since beginning his independent academic career at the U of S, Dr. Lukonghas obtained career awards from the Saskatchewan Health Research Foundation (SHRF, Top New investigator 2010) and from the Canadian Institutes of Health Research (CIHR, New investigator salary award).Dr. Lukong's research broadly involves elucidating the signaling mechanisms that control growth of normal and cancer cells. His lab is investigating the cellular and physiological roles, and the mechanisms of action and modes of regulation of the breast tumor kinase (BRK) family of non-receptor tyrosine kinases in breast cancer and glioblastoma. The Lukong lab is also characterizing the diagnostic, prognostic and therapeutic potential of the BRK family proteins in breast cancer. Dr. Lukong holds or has held funding from SHRF, CIHR and the Canadian Breast Cancer Foundation.