

# ONCOLOGY AND BIOMARKERS SUMMIT

November 27-28, 2017 | Atlanta, USA

## Adipose/Macrophage fatty acid binding protein: A new marker for pro-tumor macrophages

Bing Li

University of Louisville, USA

**T**umor associated macrophages (TAMs) play a critical role in cancer development and progression. However, due to the heterogeneity of TAMs, it remains a major challenge to identify clinically-relevant markers for pro-tumor TAMs. Here, we report that expression of adipocyte/macrophage fatty acid binding protein (A-FABP) in TAMs promotes breast cancer progression. While upregulation of A-FABP was inversely associated with breast cancer survival, deficiency of A-FABP significantly reduced mammary tumor growth and metastasis. Furthermore, we demonstrated that the pro-tumor effect of A-FABP was mediated by TAMs, in particular in a subset of TAMs with a CD11b+F4/80+MHCII-Ly6C- phenotype. Mechanistically, A-FABP expression in TAMs facilitated pro-tumor IL-6/STAT3 signaling through regulation of NFκB/miR-29b pathway (Figure). Collectively, our results suggest that A-FABP may represent as a new functional

marker for pro-tumor TAMs. Tumor stroma contains heterogeneous macrophages with different phenotype and function, among which A-FABP is highly expressed in the subset of CD11b+F4/80+MHCII-Ly6C- promoting mammary tumor growth and metastasis through NFκB/miR-29b/IL-6 pathway. Thus, A-FABP represents a new functional marker for pro-tumor macrophages and a novel target for macrophage-based tumor immunotherapy.

### Speaker Biography

Bing Li has completed his PhD in Immunology at Peking University Health Science Center, Beijing, China in 2004. He has expertise in the areas of obesity, chronic inflammation and mammary tumor development. His research is focused on dissecting the role of fatty acid binding proteins in regulation of metabolism and function of immune cells in different disease models

e: b.li@louisville.edu

 Notes: