Ruihua Chen et al., J Clin Cell Immunol 2017, 8:5 (Suppl)
DOI: 10.4172/2155-9899-C1-039

A high throughput platform for the identification of inhibitors of integrin-mediated TGFβ activation

Ruihua Chen, David Harden, Pitchumani Sivakumar, Zhuyin Li, Glenda Trujilo, Dong Cheng, Joanne Bronson, Litao Zhang, and **Mary Ellen Cvijic**
Bristol Myers Squibb, USA

Integrins and Transforming Growth Factor beta (TGFβ) regulate multiple cellular processes including adhesion, migration, proliferation, extracellular matrix (ECM) homeostasis and epithelial-mesenchymal transition. Integrin–mediated TGFβ activation has been indicated in pathological conditions including fibrogenesis and immune suppression. Macrophages are a major cellular source of TGFβ. Alteration of macrophage phenotypes and aberrant activation of TGFβ lead to several fibrotic and immune diseases therefore inhibitors of TGF-β activation have potential values in multiple therapeutic areas. We have developed *de novo Homogenous* Time Resolved Fluorescence 1536-well binding assays using multiple integrins to identify inhibitors and to support mechanism of action studies. Further, we have developed a high throughput Detroit 562 cell co-culture assay to measure TGFβ activation. In conjunction with these studies, we have also utilized a macrophage polarization model and developed cytokine and mRNA profiling assays to explore potential pharmacodynamic and/or disease biomarkers. These studies offer a novel platform to identify novel inhibitors of TGF β signaling associated with specific subsets of integrins.

Biography

Ruihua Chen has worked in the pharmaceutical and biotechnology industry for 18 years in the capacities of discovery and translational research. From the diverse roles he has played and various therapeutic areas he has worked on, he has come to a sense that drug targets can be shared in many diseases. While the specific interactions and pathways point to the direction of making certain biologics or chemotypes, translation is the key to the successful making of a drug to cure a disease He is currently working in the areas of immunology and oncology, and one of his passions is to maximize the values of compounds by finding uses outside these areas.

ruihua.chen@bms.com

Notes: