

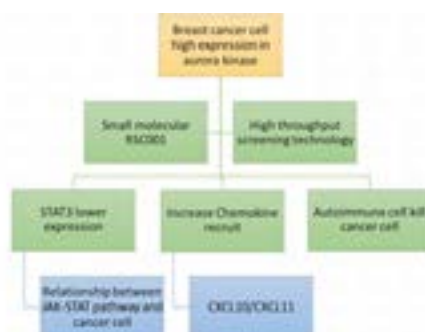
# 9<sup>th</sup> Molecular Immunology & Immunogenetics Congress

March 08-09, 2018 | London, UK

## Small molecules RSC001 use in breast cancer model

Zheng Shuo Jin and Hai Yan Wang  
Tsinghua University, China

RSC001 is a small molecule we had screened by HTS technology which can recruit chemokine in cells and these molecules belong to kinases inhibitor, serine kinases which are essential for cell proliferation. It can help in cell division and proliferation, the enzyme controlling chromatid segregation in cell cycle. Defects in this segregation can cause genetic instability, a condition which is highly associated with tumorigenesis, several cancer patients have detected higher expression of aurora kinases. The incidence of breast cancer has continued to rise over the last decade and has become the first major cause of cancer deaths in women in developing countries. The current treatment of breast cancer always uses chemotherapy or surgery treatment, experiments show that accurate treatment can be more effective in treating breast cancer and reduce the side effect during treatment. In the preliminary experiments held by Haiyan Wang shows that aurora kinases inhibitor can effectively inhibit tumor development. So, we decided to continue studying the role of the drug in breast cancer treatment, in the animal experiment the result shows that RSC001 can increase the recruit of immune cells around the tumor cells. From this phenomenon we hope we can explore the mechanism of these kinase inhibitor drug induced chemokine, Through the experiment, we noticed that breast cancer cell line 231 which added RSC001 molecule had high expression of chemokine CXCL11 and CXCL10 when STAT3 had low expression. Considering the chemokine activation pathway, we concentrated on JAK-STAT signal pathway and found the relationship between STAT1 and STAT3 and also the regulation of chemokine and autoimmune cell thus to make an immunotherapy of breast cancer. Immunotherapy combined with precision medicine can better solve breast cancer in the future.



## Recent Publications

1. Huck J J, Zhang M, McDonald A, Bowman D, Hoar K M, Stringer B et al. (2010) MLN8054, an inhibitor of Aurora A kinase, induces senescence in human tumor cells both *in vitro* and *in vivo*. *Mol. Cancer Res.* 8(3):373-384.
2. Salvatore Ulisse (2017) Solid cancer treatment with aurora kinase inhibitors: Towards a personalized medicine. *EBioMedicine.* 25:18-19.
3. Christian Lis, Stefan Rubner, Martin Roatsch, Angela Berg, Tyler Gilcrest et al. (2017) Development of Erasin: A chromone-based STAT3 inhibitor which induces apoptosis in Erlotinib-resistant lung cancer cells. 7(1):17390.

## Biography

Zheng Shuo Jin, being a doctor is my dream which I have been keeping in my heart since I was a child. My grandpa was a doctor and he was very brilliant, but finally still killed by cancer. I was really upset and I hope I can help more people who are suffering from disease and pain, also using the science to find a new way to cure cancer. I believe that doctors are not only help patient to have a treatment, also need to research and implementation something new to help their patient feel better, that why I joined the MD program in Tsinghua University. Since 2015 I joined professor Dong Wang's Lab at Tsinghua University, research in breast cancer and epigenetics.

jinzs14@mails.tsinghua.edu.cn