Claude Prigent, J Mol Biomark Diagn 2015, 6:4
http://dx.doi.org/10.4172/2155-9929.C1.024

OMICS International
conferenceseries.com

6th International Conference on
Biomarkers & Clinical Research
August 31-September 02, 2015 Toronto, Canada

Claude Prigent
Institute of Genetics and Development of Rennes, France

Is Aurora-A kinase a good biomarker: Why?

Aurora-A serine threonine kinase is a key player in cell cycle controls and essential for the progression through mitosis. It was found over-expressed in many human cancers. A gain of activity was proved to favour chromosome instability and carcinogenesis in mice. More importantly its over-expression was also reported to lead to resistance to drugs such as microtubule poisons used in chemotherapy. Additionally a loss of Aurora-A activity leads to uncontrolled stem cells proliferation at the origin of cancers in Drosophila and presumably in mice too. Aurora-A kinase has been a priority target for the development of inhibitors to be used in cancer treatment. Using a chemical-genetic approach, we investigated the effects of a specific inhibition of Aurora-A kinase during cell cycle progression, in particular during mitosis, in normal conditions but also in the presence of taxol or nocodazole. At the contrary to previous reports, we found that Aurora-A kinase activity was essential to arrest the cells in mitosis in response to taxol or nocodazol. An inhibition of Aurora-A in the presence of these drugs clearly leads to abortive mitosis and formation of polyploidy cells.

Biography

Claude Prigent is a Director of Research, CNRS and Head of the Cell Cycle team, IGDR. He has been elected as an Associate Professor at the University Laval, Quebec, Canada. After completing his post-doc in the DNA repair filed under the direction of Thomas Lindahl at the ICRF in London he has been working on mitosis trying to understand how this cell cycle stage was control by phosphorylation. He focused his activity on the Aurora-A kinase and cancer.

claude.prigent@univ-rennes1.fr

Notes: