Joel G Turner, Clinic Pharmacol Biopharm 2014, 3:2
http://dx.doi.org/10.4172/2167-065X.S1.008

OMICS Group Conferences
Accelerating Scientific Discovery

2nd International Summit on
Clinical Pharmacy
December 02-03, 2014 DoubleTree by Hilton Hotel San Francisco Airport, USA

CRM1 Inhibition in the treatment of cancer: Overcoming drug-resistance by CRM1 inhibitor combination therapy

Joel G Turner
H. Lee Moffitt Cancer Center and Research Institute, USA

Significant progress has been made over the past several years in the treatment of multiple myeloma (MM). However patients eventually develop drug resistance and die from progressive disease. The incurable nature of MM clearly demonstrates the need for novel agents and treatments. In this presentation the author would like to summarize the use of CRM1 inhibitors both in the clinic and in the laboratory. In addition, the author will focus on his work using the CRM1 inhibitors KPT330 and KOS2462 to sensitize de novo and acquired drug-resistant MM cells to the proteosome inhibitors bortezomib (BTZ) and carfilzomib (CFZ) and to the topoisomerase II inhibitor doxorubicin (DOX). In the studies the author used both BTZ resistant human 8226 and U266 MM cell lines and their parental cell lines. When CRM1 inhibitors KPT330 and KOS2462 were used in combination with BTZ, CFZ or DOX we found that cell viability was decreased and apoptosis increased synergistically. CD138/light chain positive MM cells derived from newly diagnose, relapsed or refractory MM patients were also made sensitive by CRM1 inhibitors to BTZ, CFZ and DOX. Mice treated with the CRM1 inhibitor KPT330 +/- BTZ or DOX had a significantly better response to combined treatment than single agents. In summary, CRM1 inhibitors KPT330 and KOS2464 sensitized drug-resistant and refractory multiple myeloma to proteosome inhibitors or topoisomerase II inhibitors in MM cell lines, animal models and ex vivo patient myeloma. These combination therapies may be effective for the treatment of refractory multiple myeloma.

Biography

Joel G Turner completed his PhD in 2008 from the University of South Florida and Postdoctoral studies at the H. Lee Moffitt Cancer Center and Research Institute, Tampa FL. He is a Senior Research Scientist in the Clinical Sciences Department at the Moffitt Cancer Center. He has published 42 papers in reputed journals and is a member of the American Association for Cancer Research and the American Society of Hematology.

Joel.Turner@moffitt.org