OMICS International
conferenceseries.com

Hemant Sarin, J Cancer Sci Ther 2015, 7:10
http://dx.doi.org/10.4172/1948-5956.C1.054

9th Indo Global Summit on Cancer Therapy

November 02-04, 2015 Hyderabad, India

Conserved molecular mechanisms underlying the effects of small molecule chemotherapeutics on cells

Hemant Sarin
Freelance Investigator in Translational Science and Medicine, USA.

For proper determination of the apoptotic potential of chemo-xenobiotics in synergism, it is important to understand the modes, levels and character of chemo-xenobiotics interactions with cells in context of predicted conserved biophysical properties, to know whether interactions at the cellular level are with and across cell membrane protein aqueous channels, with cell membrane phospholipids and trans-displacing, with cell membrane surface receptors and exosomal, with cell membrane surface receptors and pressure modulo-stabilizing or endocytic, or with cell membrane surface receptors and non-endocytic, and whether interactions at the sub-cellular level are with nuclear proteins or chromatin histones, with mitochondrial surface proteins and endocytic, with golgi/smooth endoplasmic reticulum proteins and endocytic, or with the cytoskeleton microtubules. Therefore, in this research chemoxenobiotic structures have been in context of charge, hydroxylation and carbonylation distribution over molecular space, and overall octanol-to-water partition coefficient (Log OWPC; unit less), molecular size viz. the Vander Waals Diameter (vd-WD; nm) and the Log OWPC-to-vd WD (nm-1) parameter and where applicable, the interacting hydrophilicity of the hydrophilic moiety [or core]-to-vd-WD (nm-1) and the incorporating lipophilicity of the hydrophobic core [or moiety]-to-vd-WD (nm-1) parameters. With this novel analysis methodology, the modes, levels and character of cellular and sub-cellular interactions of the spectrum of chemo-xenobiotics have been determined, for which a classification system has been developed based on predicted conserved biophysical properties. The significance of study findings is multi-fold: (1) Improving combinatory chemotherapy efficacy, (2) Improving predictive accuracy of personalized cancer treatment algorithms and (3) Discovery of xenobiotics of chemotherapeutic value.

Biography

Hemant Sarin earned his Bachelor of Science in Biology with Highest Honors (1994) followed by a Medical Doctorate (1999) and went on to gain experience in Neurosurgery (2000-2003) prior to completing the NIH Imaging Sciences Program while developing his Translational Imaging-based Malignant Glioma Research Program concomitantly (2004-2009). He went on to gain additional intensive experience in Neurology for 6 months (2010), International Science Policy for 6 months (2011) and American Board Eligibility in Occupational and Environmental Medicine (2012-2014) while earning his Master of Science degree concomitantly on the conserved basis of toxin and toxicant interactions in the physiologic state.

hemantsarin74@gmail.com

Notes: