

International Conference on

Cancer Biology & Drug Delivery

September 18-19, 2017 | Philadelphia, USA

Radio Frequency Electromagnetic waves induce cancer cell death

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The primary objective of this research endeavor is to study and to understand the natural physics phenomenon of electromagnetic resonance in one end closed cavity for the eventual purpose of cancer treatment. Radio Frequency waves are discharged into a coaxial cavity filled with a small amount (1.6 mL) of breast cancer cells (BT549) and the reflection as well as the power input is measured to determine the absorption power into the vitro cancer cell experiment. When the reflection of the RF waves from the loaded sample of cancer cells is at its lowest power, the RF Frequency is noted and seen to be approximately close to the resonant frequency of that cavity. This cavity can potentially be used as a control method of testing RF frequencies on various types of cancer cells, such as the available BT549 cancer cell line from Biology department. The determined frequency for 1.6 mL of sample article is found to be in the range of radio frequency, but there is much room for improvement depending on the coaxial cavity design such as length and the radii of the coaxial tubes which is currently under investigations. Some preliminary results are obtained which show that the electromagnetic waves induce cancer cell death which is known as apoptosis. At the Cancer-2017 conference, results of the experiment for the treatment of cancer cells will be presented.

Biography

Professor Muhammad Bhatti received PhD. From the University of Notre Dame, IN, USA. He completed postdoctoral studies from the University of Vanderbilt. He has been serving as a professor at the University of Texas Rio Grande Valley in the department of Physics. He has published more than 50 papers in reputed journals and has been serving as an editorial board member of reputed and serving as manuscript reviewer for several prestigious journals.

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