



International Biotechnology and Research Conference

April 25-27, 2018 Rome, Italy

The Effect of Etoposide Drug on Chromosomal Changes and Mitotic Index in Mouse Bone Marrow Cells

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Etoposide is one of the important chemical drugs commonly used worldwide in the treatment of many cancers and it is classified as an anti metabolic drug as it disrupt the process of multiplication of DNA in cancer cells by inhibiting DNA topoisomerase II causing the death of cancer cells. We select short-term tests in the current study, because it is a quick and accurate indicator to study the effect of chemicals and drugs on biological systems. As there are changes can determined accurately by cytological examination. Laboratory male mice of pure SWR / J were exposed to three types of concentrations (20, 40, 60 mg / kg) of Etoposide at different times to study its effect on the index rate of indirect cell division, and the extent of chromosomal abnormalities that can be caused. Treatment with Etoposide drug led to significant decrease in the index rate of cell division and significant increase of chromosomal abnormalities, and it correlates directly with concentration and inversely with the passage of time after treatment.

Biography:

Dr. Abdul Rahman A. I. Alyahya is working in the Department of Clinical Laboratory Sciences, College of Applied Medical Sciences, Shaqra University, KSA. He is a cell Biologist scientist since 2005. He has strong research and teaching experience in cell Biology, toxicology, animal cell culture, Anticancer Drugs and pharmaceutical biotechnology. He obtained his PhD from King Saud University in Biology. He joined Shaqra University in 2009 as assistant professor and promoted to associate professor. Since 2009, he has secured many national grants for many research projects. He has published 31 refereed Journal papers, 12 conference presentations, 3 industrial reports, two conference proceedings. Formerly he was the dean College of science and currently he is a Vice Rector of Shaqra University for services and consultancy affairs. He has research interest in Cell biology, Toxicology, Animal Cell Culture, Pharmaceutical Biotechnology and Environmental Biotechnology.