

Tuesday, February 11, 2014
CANCER RISKS II
10:00 a.m. Expo Hall A3

Chairs: Mary-Helen Barcellos-Hoff
Honglu Wu

- 10:00 a.m. Sunagawa M. Zhang Y. Yeshitla S. Kadhim M. Wilson B. Wu H.
[*mBAND Analysis of Late Chromosome Aberrations in Human Lymphocytes Induced by Low- and High-LET Radiation*](#) [#3133]
The multi-color banding fluorescent in situ hybridization (mBAND) technique was applied to investigate early and late damages in the chromosome of human lymphocytes exposed to low- and high-LET radiation.
- 10:15 a.m. Snijders A. M. Mannion B. J. Leung S. G. Moon S. Kronenberg A. Wiese C.
[*Micronucleus Formation in Human Skin Keratinocytes Exposed to Different Radiation Qualities in 2D and in 3D*](#) [#3312]
One of the main concerns associated with manned missions to space is the increased risk for developing cancer from space radiation exposure.
- 10:30 a.m. Cheema A. K. Suman S. Kaur P. Fornace A. J. Jr. Datta K.
[*Long-Term Differential Changes in Mouse Intestinal Metabolomics After \$\gamma\$ and Heavy Ion Radiation Exposure*](#) [#3319]
There is a paucity of in vivo follow up data on persistent metabolic consequences of gamma and space radiation on intestine. The current study identified in each radiation type a number of key differential metabolites that could serve as risk biomarkers.
- 10:45 a.m. Kanokporn Noy Rithidech K. R. Montree Tungjai M. T. Witawat Jangiam W. J.
Louise Honikel L. H. Elbert Whorton E. W.
[*In Vivo Induction of Aberrant Patterns of DNA Methylation and Chromosome Instability in Hematopoietic Stem/Progenitor Cells \(HSPCs\) by Silicon \(\$^{28}\text{Si}\$ \) Ions*](#) [#3087]
Our data suggest, for the first time, a link between a reduction of 5-hydroxy-methyl-cytosine and genomic instability in hematopoietic stem/progenitor cells collected from mice exposed to ^{28}Si ions. The results are important since these two endpoints are highly relevant for assessing cancer risks.
- 11:00 a.m. Xie M. Deng X.
[*Functional Role of Bcl2 in Regulating the Repair of the HZE Particle-Induced DNA Damage*](#) [#3132]
Based on our findings, we propose that Bcl2 may inhibit the Mre11 complex-mediated DNA resection following exposure of HZE particles leading to suppression of the HR-mediated DSB repair in live cells, which may eventually contribute to genetic instability and tumor development.
- 11:15 a.m. Wang M. Saha J. P.
[*Smad7 Foci are Present in Micronuclei Induced by Heavy Particle Radiation*](#) [#3323]
We irradiated human cells with different high LET particles radiation and found particle track structure affect the MN yield. Smad7 as well as γH2AX foci are present in micronuclei (MN) post radiation, but not 53BP1, pSmad2 and pATF2 foci.
- 11:30 a.m. LUNCH