

Hypothesis

“We conclude that high-LET α -particles cause closely interspaced DSBs leading to high local concentrations of repair proteins”

Fe ion radiation (high LET) will result in more clustered damage than x-ray radiation (low LET)




International Journal of
Molecular Sciences



Article

Comparison of High- and Low-LET Radiation-Induced DNA Double-Strand Break Processing in Living Cells

Stefan J. Roobol ^{1,2,3}, Irene van den Bent ¹, Wiggert A. van Cappellen ⁴, Tsion E. Abraham ⁴,
Maarten W. Paul ¹ , Roland Kanaar ^{1,2}, Adriaan B. Houtsmuller ⁴, Dik C. van Gent ^{1,2} and
Jeroen Essers ^{1,5,6,*}

Data processing

- Remove (repeated) columns ending in '.1'
- Drop duplicate rows
- Separate the data into multiple CSV files based on values in the 'chromosome' column
- Read in singular chromosome csv file into R
- Delete unused columns
- Take a random subset of rows (sizes 100-300)
- One-hot-encode position b38