Sabine Mai et al., J Hematol Thrombo Dis 2016, 4:5(Suppl)
http://dx.doi.org/10.4172/2329-8790.C1.002

DNA-poor space in Hodgkin's lymphoma nuclei

Sabine Mai[1] and **Hans Knecht**[2]
[1]University of Manitoba, Canada
[2]McGill University, Canada

Our recent quantitative super-resolution imaging of Hodgkin's lymphoma (HL) nuclei demonstrated that there are significant differences in DNA-free/poor nuclear spaces between lymphocytes and mono-nucleated Hodgkin (H) cells as well as multi-nucleated Reed Sternberg (RS) cells. In addition, this difference is present between mono- and multinucleated RS cells: The latter documents the increase in DNA-poor space even more. Circular DNA-poor spaces were first thought to be nucleoli; however, since neither nucleolin nor Upstream Binding Factor (UBF), a transcription factor residing in nucleoli, stained these spaces, their function is currently elusive. Using a 12 nucleotide peptide nucleic acid probe, we identified telomeric fragments in circular DNA-poor spaces of H and RS. In addition, these spaces contain promyelocytic leukemia protein. The latter is usually associated with telomeres. As we have shown earlier, HL is a disease of telomere and shelterin dysfunction. Therefore, HL may use DNA-poor space to store telomeric fragments, i.e. extremely short telomeres, so-called T-stumps.

Sabine.Mai@umanitoba.ca

Notes: