LUXEMBOURG INSTITUTE OF HEALTH

LECTURE

Hrvoje Miletic

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BAM - Mc Clintock room A & B
6A, rue Nicolas-Ernest Barblé,
L-1210 Luxembourg

10:00 - 11:00

Cell communication and mitochondria transfer in brain tumors

Glioblastoma (GBM) is one of the most aggressive primary brain tumors with a bleak prognosis. The disease is characterized by diffusely infiltrating tumor cells contributing to treatment resistance. In the past ten years, new communication avenues have been discovered in GBM such as microtubes and neuroglioma synapses. Microtubes are cytoplasmic extensions that connect tumor cells to a functional and treatment-resistant network. The network communicates through gap junctions and transfer of small molecules such as Calcium. Recently we showed that mitochondria can be exchanged through this network which means that communication goes beyond gap junctions and that the microtube connections at least in part must be open connections. We demonstrated that mitochondria are shuttled from astrocytes to tumor cells leading to increased oxidative metabolism and tumor growth. With this work we demonstrated that the microtube network is extending beyond tumor cells to stromal cells such as astrocytes. In this presentation, I will discuss mechanisms of microtube formation and mitochondria transfer.

SPEAKER:

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HOST:

Johannes Meiser and Valérie Voorsluijs

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