

Department of Biological Regulation and Dwek Institute for Cancer Therapy Research

 ZOOM ON CANCER

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Dissecting tumor heterogeneity in glioma

30th December
Thursday 2021

14:00

Heterogeneity is a fundamental property of cancers that prevents effective therapies. I will describe our single-cell studies of multiple types of glioma, in which we redefine the subtypes of glioma based on their cellular diversity, explore the mechanisms that generate heterogeneity, and their functional and clinical implications. We find that heterogeneity in glioma primarily involves programs from neural development and a mesenchymal state that is driven by the microenvironment. There is a high degree of plasticity, such that cells transition between states following treatments and even in the absence of treatments. In some glioma, multiple cellular states can initiate tumors, suggesting that future therapies will have to simultaneously target these states in order to improve patient survival. However, in other gliomas, only a single progenitor state is capable of tumor initiation, raising the potential for differentiation therapies. We find that inhibition of mutant IDH promotes the differentiation of progenitor glioma cells and suggest that future combination treatments should enhance this differentiation capacity.

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Host

Prof. Ido Amit

HHMI International Research Scholar |
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