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Tumor-educated platelets: A blood-based platform for bio monitoring and molecular cancer diagnostics

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Tumor-educated blood platelets (TEPs) are implicated as central players in the systemic and local responses to tumor growth, thereby altering their RNA profile. In this presentation, we will discuss the potential use of TEPs for pan-cancer, multiclass cancer, and companion diagnostics, enabling clinical advances in blood-based "liquid biopsies".

Recent Publications

1. Teng J, da Hora CC, Kantar RS, Nakano I, Wakimoto H, Batchelor TT, Chiocca EA, Badr CE and Tannous BA. 2017 Dissecting inherent intratumor heterogeneity in patient-derived glioblastoma culture models. *Neuro-Oncol*;19:820-832.
2. Crommentuijn MHW, Maguire CA, Niers JM, Vandertop WP, Badr CE, Würdinger T and Tannous BA. 2016 Intracranial AAV-sTRAIL combined with lanatoside C prolongs survival in an orthotopic xenograft mouse model of invasive glioblastoma. *Mol Oncology*;10:625-634
3. Lai CP, Kim EY, Badr CE, Weissleder R, Mempel TR, Tannous BA* and Breakefield XO*. 2015 Visualization and tracking of tumor extracellular vesicle delivery and RNA translation using multiplexed reporters. *Nat Commun*;6:7029.
4. Best M, Sol N, Tannous J, Westerman B, Rustenburg F, Schellen P, Verschueren H, Post E, Koster J, Ylstra Bm Ameziane N, Dorsman J, Smit EF, Verheul HM, Noske DP, Reijneveld JC, Nilsson JA, Tannous BA*, Wesseling P* and Würdinger T*. 2015 RNA-seq of tumor-educated platelets enables blood-based pan-cancer, multiclass and molecular pathway cancer diagnostics. *Cancer Cell*;28:666-676.
5. Teng J, Hejazi S, Badr CE and Tannous BA. 2014 Systemic anticancer neural stem cells in combination with a cardiac glycoside for glioblastoma therapy. *Stem Cells*;32:2021-2032.

Biography

Bakhos A Tannous is an Associate Professor of Neurology at Harvard Medical School and Director for the Interdepartmental Neuroscience Center at the Massachusetts General Hospital. He is a member of the Dana Farber/Harvard Cancer Center and also acts as Co-Director of the Molecular Neurogenetics Unit-East and Director of the MGH Viral Vector Production Facility. His research interest includes novel imaging and high throughput discovery of gene/cell/drug therapies for brain tumors, as well as blood-based platforms for cancer molecular diagnostics. He published more than 100 papers in peer-review journals and serves as an editorial board member for several journals.

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