INSTITUTO CAJAL

SEMINARIO PRESENCIAL

Viernes, 10 de junio de 2022
12:30 h. Instituto Cajal (CSIC) Madrid

DR. MANUEL VALIENTE

CNIO

Madrid

Why the soil is critical to challenge in the brain

Abstract

Brain metastasis is the most frequent tumor affecting the brain, with a rising incidence among cancer patients affecting 3 out of 10, and, unfortunately, without a treatment that allows to escape from a 5% survival rate after 2 years from diagnosis. This unmet clinical need can be challenge by studying the crosstalk of the tumor cells with the brain microenvironment. In reality, the brain associated with the metastasis is altered and transformed by the tumor and this new ecosystem involves important aspects for the viability of cancer cells. I will present data demonstrating that this crosstalk could be incorporated into new drug screen methods, it underlies the resistant of brain metastasis to available treatments and that it could be exploited into new therapeutic strategies. Our research has provided evidences on these various aspects using experimental models but also in patients, thus, creating new opportunities for improving the management of brain metastasis.

Affiliation and short bio

Manuel Valiente (Zaragoza, 1980) has a degree in Veterinary Medicine (University of Zaragoza, 2003). His interest in the central nervous system led him to obtain a doctorate in Neurosciences (Institute of Neurosciences, Alicante, 2009) working in the laboratory of Oscar Marín. To expand his scientific knowledge in the area of the central nervous system, Valiente joined the laboratory of Joan Massagué (Memorial Sloan Kettering Cancer Center, New York, 2010), where he began his research on the biology of brain metastasis.

In 2015, Valiente established the Brain Metastases Group at the CNIO and has developed since then a competitive program focused on understanding the biology of brain colonization by metastatic cells that has successfully generated several translational opportunities.

His contributions have been published in high-impact scientific journals such as Nature, Cell, Nature Medicine, Nature Cell Biology. Valiente has received important recognitions, such as the appointment as EMBO YIP or the Consolidator Grant from the ERC. He is a member of the Scientific Committees of the European Association of Neuro-Oncology (EANO) and the American Association for Cancer Research (AACR).

Related publications with the topic:

Monteiro C*, Miarka L*, et al., Valiente M. A strategy to personalize the use of radiation in patients with brain metastasis based on S100A9-mediated resistance. ***Nature Medicine*** (In press). (*) Equal contribution.

Zhu L, et al., Valiente M. A clinically-compatible drug-screening platform based on organotypic cultures identifies vulnerabilities to prevent and treat brain metastasis. ***EMBO Mol. Med***. (In press). DOI: 10.15252/emmm.202114552.

Valiente M*, et al. Brain Metastasis Cell Lines Panel: a public resource for organotropic cell lines. (2020). ***Cancer Research***. 80(20):4314-4323. (*) Corresponding author.

Priego N, et al., Valiente M. (2018). STAT3 labels a subpopulation of reactive astrocytes required for brain metastasis. ***Nature Medicine***. 24(7):1024-1035.

Instituto Cajal. CSIC

Avda. Doctor Arce, 37. 28002. Madrid. Tel. 91 585 4750

www.cajal.csic.es