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Cancer stem cells as the target: Early detection for therapy

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Gliomas, like other types of cancer, are composed of a heterogeneous mixture of neoplastic cells, the great diversity between tumor cells, makes them the center for different studies *in vitro* and *in vivo* for their ability to grow, an intimately related property with the differentiation state of the cell. However there are cells that do not differentiate, regularly in a quiescent state, which are called cancer stem cells (CSC`s) with great tumorigenic potential due to the ability of self-renewal that is characteristic of a stem cell. Their proliferation by external stimuli or their own niche, gives rise to the offspring of multiple lineages, among them to progenitors that later differentiate to a more specific cell. These quiescent cells can be a fundamental therapeutic target, since currently cancer treatments are cytotoxic to most proliferating tumor cells, but do not destroy the compartment of CSCs, allowing these cells to survive and give rise to tumor recurrence. However, the identity and origin of CSCs remains unknown. In this paper we analyze the study of glioma cells and the implications of the CSC hypothesis for the development of future therapies for brain tumors.

Biography

Paola B Castro Garcia has completed her PhD from Castilla-La Mancha University and Post-doctoral studies from Hokkaido University School of Medicine. She is a Research Professor in University of Guadalajara, México.

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