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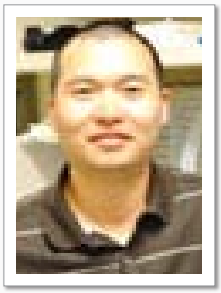
3rd International Conference on
Biomarkers & Clinical Research

July 2-4, 2012 Embassy Suites Las Vegas, USA



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Aberrant cell cycle re-entry: The common mechanisms of cancers and neurological diseases

Cancers and CNS diseases are two major threats to human health. Although tumor cells undergo uncontrolled proliferation, many tumors originate from adult tissues in which the majority of cells are in the G0 quiescent phase. Similarly, mature neurons stay in G0 quiescent phase in normal physiological conditions, but do re-enter the cell cycle irregularly (and die) in certain pathological conditions. Aberrant cell cycle is the hallmark of many tumor cells in cancers, and also observed in postmortem and/or animal studies of dying neurons in a series of neurological diseases (Alzheimer's disease, stroke). There are many pharmacological approaches that interfere with classical cell cycle molecules and mitogenic pathways to block the cell cycle of tumor cells (in treatment of cancer) as well as to block the cell cycle of neurons (in treatment of CNS diseases). Thus, cancers and CNS diseases, two seemingly different disease types, at least in part share the common molecular pathology of cell cycle re-entry. With this knowledge in mind, novel insights into cell cycle inhibition strategies to be used in treatment of the "aberrant cell cycle diseases" can be made.

Biography

DaZhi Liu has completed his Ph.D from Shanghai Institute of Materia Medica. After the postdoctoral studies, he became a professional researcher in University of California at Davis. He has published more than 30 papers in reputed journals and serving as an editorial board member of the Journal of Cytology & Histology.

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