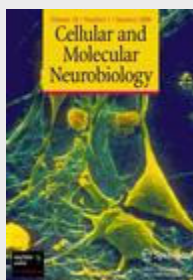


## Journal Article



## Partial Biological Characterization of Cancer Stem-like Cell Line (WJ<sub>2</sub>) of Human Glioblastoma Multiforme

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**Abstract** To provide suitable models for human GBM cancer stem cells in vitro and in vivo, and investigate their biological characteristics, a new human GBM cancer stem-like cell line, WJ<sub>2</sub>, was established in this experiment through serial passages from adherent monolayer culture to nonadherent tumor sphere culture in turns; Its partial biological characteristics were studied through cell proliferation and tumor sphere assay; cell cycle distribution, side population, and CD133 phenotype were analyzed with FCM. The expressions of CD133, Nestin, and GFAP of cancer stem-like cells and xenograft tumor cells were detected with RT-PCR and immunohistochemistry. Biological characterization, side population, CD133 phenotype and CD133 Nestin, BCRP-1, Wnt-1 gene expression revealed the stemness of this cancer stem-like cell line. Tumorigenicity heterotransplanted in nude mice; histopathological characteristics of xenograft tumor, and expressions of CD133, Nestin, and GFAP of xenograft tumor cells indicated that xenograft tumors recapitulated the phenotype and biological characterization of human primary GBM. All findings of this experimental study suggested that WJ<sub>2</sub> cancer stem-like cell line could accurately mimic human GBM cancer stem cell in vitro and in vivo; it would be useful in the cellular and molecular studies as well as in testing novel therapies of CSC-based anti-cancer therapies for human GBM.

**Keywords** Glioblastoma multiforme - Brain neoplasm - Cancer stem cell line

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