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Methods for Culturing Glioblastoma Cancer Cells and for Inhibiting Invasion of Cancer

Tech ID: 32758 / UC Case 2020-155-0

TECHNOLOGY DESCRIPTION

The technology is a method to grow glioblastoma (or other cancer) cells in cortical organoids. The technology encompasses methods for culturing primary patient-derived cancer cells, screening candidate agents for activity in reducing cancer cell growth and inhibiting the invasion of cancers of the central nervous system.

Current methods to grow glioblastoma in culture involve tumor explants (i.e., cells grown in culture dishes) or neuroblast culture. It is challenging to grow and study glioblastoma as few cells from primary patient tumors survive and/or exhibit poor growth either in cell culture or when transplanted into mouse models.

ADVANTAGES

- ▶ Potential to support the creation of glioblastoma models that more closely resemble disease in patients while overcoming cell survival issues.
- ▶ The cell culturing method has potential to enable:
 - primary tumors to be studied without substantially changing the underlying tumor cell types.
 - study of the whole tumor population (current methods involve selective processes that grow out of specific tumor clones).
 - sorting of desired tumor populations and subsequent culturing (current methods typically result in death of many cell populations)
- ▶ Potential to rapidly grow tumors from samples obtained during tumor resection/biopsy.
- ▶ Growing cells in human tissues (i.e., in human stem cell-derived brain organoids) provides a more favorable environment for tumor growth.
- ▶ Potential to leverage method to grow human tumors from different organs.

APPLICATION

- ▶ Drug screening for the treatment of glioblastoma (or other cancers)
- ▶ Method has the potential to provide faster and more accurate therapeutic screening of anti-tumor drugs
- ▶ Supportive of standardizing platforms to grow glioblastoma
- ▶ In cell lines involving primary tumor/transplantation hybrid

LOOKING FOR PARTNERS

CONTACT

Lindsay N. Sanford
Lindsay.Sanford@ucsf.edu
tel: .



OTHER INFORMATION

CATEGORIZED AS

- ▶ **Medical**
- ▶ [Disease: Cancer](#)
- ▶ [Research Tools](#)
- ▶ [Screening](#)
- ▶ [Therapeutics](#)

RELATED CASES

2020-155-0

To commercialize the technology

STAGE OF DEVELOPMENT

Proof of concept – method utilized to culture sorted and unsorted tumor populations

RELATED MATERIALS

► [Outer Radial Glia-Like Cancer Stem Cells Contribute to Heterogeneity of Glioblastoma. Cell Stem Cell.](#)
[2020 Jan 2; 26\(1\): 48-63.e6](#)

DATA AVAILABILITY

Under CDA

PATENT STATUS

Country	Type	Number	Dated	Case
Patent Cooperation Treaty	Reference for National Filings	WO 2021/138209	07/08/2021	2020-155

Patent Pending

OTHER INFORMATION

PCT patent application No. [WO2021138209A1](#)

ADDRESS

UCSF
Innovation Ventures
600 16th St, Genentech Hall, S-272,
San Francisco,CA 94158

CONTACT

Tel:
innovation@ucsf.edu
<https://innovation.ucsf.edu>
Fax:

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