Docket #: S13-244

Reagents to maintain stem cell pluripotency in ambient atmosphere

This invention provides a stem cell culture medium with small molecule inhibitors that can be used to maintain pluripotency in a laboratory atmospheric environment. Using these small molecules for stem cell culture may eliminate the need for the costly equipment needed to create a dedicated low-oxygen environment. The buffer was invented by Professor Jim Collman at Stanford University and Professor Christopher Navara at the University of Texas.

Stage of Research
This research is ongoing. Currently 12 compounds have been tested. These have been tested in human embryonic stem cells and are undergoing testing in other cell lines including other human cell types and pluripotent stem cells from other species.

Applications

- **Stem cell culture** - to grow cells and maintain pluripotency in pluripotent stem cells, human embryonic stem cells, or induced pluripotent stem cells

Advantages

- **Ambient atmosphere** - using mitochondrial inhibitors in growth medium maintains pluripotency:
    - without low oxygen conditions
    - without special containment and measurement equipment

Patents

- Published Application: WO2015196139
- Published Application: 20170130198

Innovators

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