Inaugural Issue – Translational, Inter- and Multi-disciplinary Theme

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This first issue of the relaunched journal includes five articles. The subject of these inter- and multi-disciplinary articles represents the journal's goal to reach a wide audience. Sinha and colleagues showed how their molecular research is closely linked to a preclinical stage to prevent breast cancer cells entering dormancy, as well as to target established dormant breast cancer cells. The group previously showed that *CDH2* is significant for gap junctional intercellular communication, which allowed the cancer cells to communicate with endogenous bone marrow cells resulting in cycling quiescence (1). The group reported on *CDH2* as a therapeutic target for breast cancer (1). The paper in this issue cloned and analyzed the $5'$ regulatory region of CDH2, and addressed how small non-coding microRNA could regulate *CDH2* expression. This adds to additional method to target CDH2 to reverse and prevent breast cancer dormancy. The paper by Barboza and colleagues focused on lung carcinoma. Specifically, the group showed PDCD2 blunting the cycling of lung carcinoma by inhibiting the G0/G1 transition. The latter occurred by suppressed expression of cyclin D1.

The article by Ayer and colleagues is applicable to various areas of cell culture. This paper is in line with the premise of the journal to support other areas of science. This paper could support basic and preclinical research with a laboratory procedure that might not be easily available in the routine procedures of laboratories. The group reported on a method to cryopreserve large number of mobilized peripheral blood in a research laboratory. This article is important to alert laboratory personnel that cryopreserving large numbers of primary human immune/hematopoietic cells is distinct from the method using cell lines, which will contain relatively less cells per vial. The group performed robust studies to show their method maintains the integrity of hematopoietic stem and progenitor cells.

The paper by O'Neal underscores the goal to reach an international audience and to interest business and scientific innovation. Since international collaboration would need to consider cultural differences, varied regulatory rules per country and issues of patent ownership, it is important to show a model that could be effective. Indeed, O'Neal presented a fascinating article that demonstrates how scientific innovation could occur by a team plan with structure. This article is part of the journal's collaboration with the annual meeting organized by HEALinc Summit, a global future health research and development organization, Bahamas. This collaboration is an opportunity for the journal to reach part of the globe to highlight scientific and clinical progress.

The publication by Rangdal and colleagues shows how the journal incorporates several disciplines to impact new scientific explorations to space. The group simulated a model to incorporate gravity within ships of various size. This simulation is impactful as it could mitigate the untoward effects by low gravity in space. The group incorporate human data of astronauts to explain how their model could address premature aging of low gravity on human. Overall, this first issue showed how innovation could lead to translational studies in two types of cancer, enhanced innovation by incorporating international groups, including needed laboratory technique to enhance clinical translation, and simulation research to address premature aging in space.

References

[1] Sinha G, Ferrer AI, Ayer S, El-Far MH, Pamarthi SH, Naaldijk Y, et al. Specific N-cadherin-dependent pathways drive human breast cancer dormancy in bone marrow. Life Sci Alliance. 2021;4(7).