

Gen 3- 2019 ISCC Research Project Abstract



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LIMITED COMPETITION FOR THE CONTINUATION OF THE INTESTINAL STEM CELL CONSORTIUM COORDINATING CENTER

The overall objective of the Intestinal Stem Cell Consortium Coordinating Center (ISCC CC) is to maximize scientific exchange and accelerate research, information, data, biomaterials, models, reagents, resources and methods shared within the ISCC and with the research community. The goal of this grant proposal is to continue to maintain and enhance the ISCC CC at City of Hope for another 5 years, working with investigators from 9 Research Centers across the nation chosen by NIH to pursue the vision of developing novel therapies targeting intestinal stem cells and their supportive niche to regenerate and rebuild the human intestine. To achieve its mission of characterizing the minimal, required niche factors that support intestinal stem cells in health and disease, the ISCC utilizes an integrated, multidisciplinary team science approach, which is a network of synergistic projects focused on the following 3 Goals: Goal 1: To define essential niche components that contribute to intestinal epithelial homeostasis, Goal 2: To determine niche components that are altered following injury (infection, chemotherapy, radiation) and evaluate whether they play a role in epithelial regeneration, and Goal 3: To develop a therapeutic approach for epithelial injury, using transplant, drugs, growth and/or differentiating factors. The ISCC CC at COH is fully poised to continue to provide optimal research infrastructure and support to the ISCC through the following specific aims: 1) To facilitate the necessary team science administration of the ISCC; 2) To advance the collaborative science of the ISCC by providing study development and analysis; 3) To coordinate standardized resources across the Consortium; and 4) To provide data and information sharing within the ISCC and across the research community.

Public Health Relevance Statement:

Diseases that affect the gastrointestinal (GI) tract have shown to be potentially devastating monetarily and with respect to patient health; such diseases continue to grow exponentially world-wide due to the multitude of ailments that attack the digestive system, affecting more than 70 million people in the US. The vision of the Intestinal Stem Cell Consortium (ISCC) is to develop novel therapies targeting intestinal stem cells and their supportive niche, to regenerate and rebuild the human intestine. The ISCC Coordinating Center (CC) will be responsible for facilitating, supporting, and helping to advance the ISCC team science, to quell the onslaught of GI diseases.