PHD PROPOSAL TO SUPPORT A CANCER RESEARCH PROGRAM IN THE SCHOOL OF PHARMACEUTICAL SCIENCES SAMPLE

Background

In Ireland alone, about 30,000 new cases of cancer are being diagnosed every year. This results to over 8,000 deaths every year. While this situation is not really unique in Ireland alone, cancer is one of the primary causes all over the world, with the numbers of individuals being diagnosed increasing each and every year.

Despite the fact that advancements are being made in the area of cancer research and diagnosis, one issue that will be faced is that the options for treatment for a cancer patient is generally limited. The structured cancer research program plays a vital role in the education of the next generation of researchers. The next batch of students graduating will then experience an enhanced opportunity to contribute in terms of improving the detection, prevention and cures for cancer, while making cancer a disease that is manageable.

Project Goal

This purpose of this research is to educate the next generation of researchers by providing support to 5 students who are undertaking their PhD in cancer research. They will be supervised and supported by a multi-disciplinary team of pharmacists, medical doctors, pharmacologists, as well as pharmaceutical and medicinal chemists.

The students are given the opportunity to have three to six months experience in the laboratories of collaborators, making sure that they have a deep understanding on multidisciplinary clinical, academic and industry cancer research. At the same time, the laboratories are also progressing towards the creation of anti-cancer drugs for the interest of cancer patients.

For this particular project, we will look into the pathological activated functions and phenotype of cancer-associated fibroblasts (CAFs) in breast tumors coming from murine models as well as human patients in order to determine strategies that will target them in deterring tumor progression, along with metastatic dissemination.

Significance

Despite the importance of the role that CAFs play in breast cancer, the mechanisms that regulate the maintenance and emergence of pathologically activated status of the CAFs, as well as their particular role in influencing the progression of breast cancer are not understood well. This research will further improve our understanding behind the fundamental mechanisms that underlie cancer biology, leading to the design and delivery of effective and innovative strategies for the prevention, diagnosis and treatment of cancer.

References
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