Module 1 Quiz

1. Translational Research refers to:
    a. The scientific process by which observations in the lab, clinic, and community are turned into interventions that improve the health of individuals and the public – from diagnostic and therapeutics to policy approaches.
    b. The endeavor to traverse a particular step of the translation process for a particular target or disease, anywhere along the translational continuum, from T0-T4 (basic, preclinical, and clinical research, healthcare delivery and implementation science research, and population health research) .
    c. Research into linguistic translation.
    d. Both (a) and (b).
2. Translational Science refers to:
    a. The field that generates scientific and operational innovation that overcome longstanding causes of slow-downs and stoppages in the translational pipeline.
    b. The field that aims to accelerate progress from biomedical discoveries to health solutions, such as diagnostics, treatments, and interventions.
    c. The field focused on identifying broadly generalizable scientific and operational principles, practices, and resources that advance the effectiveness and efficiency of the translational research process.
    d. All of the above.
3. Cancer metastasis is the major cause of cancer morbidity and mortality.
    a. True
    b. False
4. Most animal models of cancer focus on testing therapies for metastatic disease.
    a. True
    b. False
5. Cancer is a heterogeneous disease with differences detected in cell populations within the same primary tumor. This heterogeneity is further amplified when comparing primary tumors to metastatic tumors in the same individual.
    a. True
    b. False
6. The Metarrestin project highlights novelty and innovation in translational science because:
    a. It focused on the metastatic process rather than on a single gene product or cellular pathway for intervening in cancer progression.
    b. Scientists developed assays to examine aspects of metastasis in vitro that could be applied to high-throughput screening.
    c. Both answers above and many more reasons that will be elaborated on in future talks during this course.

Answer Key

1. Both (a) and (b).
   The correct answer is (d). Translational research advances the research along the translational continuum from discoveries to health solutions.
2. All of the above.
   The correct answer is (d), “all of the above.” Response (a) defines the field of translational science, response (b) identifies the goals of the field, and response (C) does both.
3. True
   An often-quoted statistic is 90% of cancer deaths are a result of metastatic disease. While we can debate whether 90% is the correct statistic, it is clear that once cancer cells have acquired the ability to metastasize, the cancer is more difficult to control. More information about metastatic cancer can be found here (https://www.cancer.gov/types/metastatic-cancer).
4. True
   Most preclinical models focus on testing therapies for primary tumors.
5. True
   This heterogeneity complicates all aspects of cancer research – from designing research questions to developing in vitro and animal models to considering treatment approaches.
6. Both answers above and many more reasons that will be elaborated on in future talks during this course.
   There are still many aspects of this project that we have yet to cover!