Module 1 Readings

Required

Introduction to Translational Science

Translating Translation Commentary by Dr. Christopher P. Austin, Director, NCATS

Austin CP. (2018). Translating translation. Nature Reviews Drug Discovery, 17 (7), 455-6.

Translational Science Principles

NCATS has proposed a set of Translational Science Principles that offer guidance for scientific and operational approaches to accelerate progress along the translational pipeline, from biomedical research discoveries to health solutions. Read about these principles.

Paper and press releases providing orientation to the major project that will be discussed throughout the course

Paper reporting much of the preclinical research conducted in collaboration with NCATS:

Frankowski KJ, Wang C, Patnaik S, et al. (2018). Metarrestin, a perinucleolar compartment inhibitor, effectively suppresses metastasis. Science Translational Medicine, 16;10(441).

Press related to the release of the Frankowski et al, 2018 paper:

National Institutes of Health. (2018). NIH, Northwestern scientists develop potential new approach to stop cancer metastasis.

National Cancer Institute. (2018). Experimental Cancer Drug Metarrestin Targets Metastatic Tumors.

Northwestern University: Paul, M. (2018). A "dirty bomb" battles cancer metastasis.

University of Kansas Cancer Center. (2018). Researchers identify metastasis-suppressing compound.

Recommended

Selected papers for cancer biology and treatment overview. (Not required but may be helpful if you do not have a background in cancer research or treatment.)

Population Burden of Cancer

American Cancer Society (ACS) Report: Cancer Facts and Figures, 2020

Siegel RL, Miller KD, and Jemal A. (2020). Cancer statistics, 2020. CA - A Cancer Journal for Clinicians, 70(1) - 7-30.

General Cancer Biology, and Historical Perspective on Related Research

Webinar: "Hallmarks of Cancer: New Dimensions." This one-hour webinar was recorded in 2022, and features updates on the "Hallmarks of Cancer" publications, by Dr. Douglas Hanahan. And here is the URL — https://www.youtube.com/watch?v=d0AKtbLgWQk

Hanahan D and Weinberg RA. (2000). The hallmarks of cancer. Cell, 100, 57-70.

Hanahan D and Weinberg RA. (2011). Hallmarks of cancer - the next generation. Cell, 144, 646-74.

Note: The two articles above represent a 2000 article and its 2011 update. The differences reflect changes in the science in the intervening decade, particularly the emergence of new areas of research.

Current Cancer Treatment Landscape, as Reflected in Recent Drug Approvals

Kurzrock R, Kantarjian HM, Kesselheim AS, and Sigal EV. (2020). New drug approvals in oncology. Nature Reviews Clinical Oncology, 17, 140-1

Singh H, Blumenthal G, and Pazdur R. (2020). Approvals in 2019-international review and a new agnostic molecular entity. Nature Reviews Clinical Oncology, 17, 130-132.