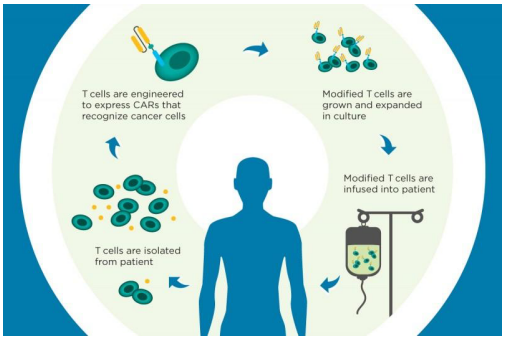
Overarching Theme: Mathematical Model of Targeted Cancer Therapeutics

Specific Topic: Mathematical Modeling of CAR T Cell Therapy



Pre-Reading List

- Mathematical Modeling Papers
  - Barros LRC, Paixão EA, Valli AMP, Naozuka GT, Fassoni AC, Almeida RC. CART*math*—A Mathematical Model of CAR-T Immunotherapy in Preclinical Studies of Hematological Cancers. *Cancers*. 2021; 13(12):2941. https://doi.org/10.3390/cancers13122941
    - Link: https://www.mdpi.com/2072-6694/13/12/2941/htm
  - Sahoo P, Yang X, Abler D, Maestrini D, Adhikarla V, Frankhouser D, Cho H, Machuca V, Wang D, Barish M, Gutova M, Branciamore S, Brown CE, Rockne RC. Mathematical deconvolution of CAR T-cell proliferation and exhaustion from real-time killing assay data. J R Soc Interface. 2020 Jan;17(162):20190734. doi: 10.1098/rsif.2019.0734. Epub 2020 Jan 15. PMID: 31937234; PMCID: PMC7014796.
    - Link: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7014796/
- Experimental Papers on Bystander Effects
  - Klampatsa A, Leibowitz MS, Sun J, Liousia M, Arguiri E, Albelda SM. Analysis and Augmentation of the Immunologic Bystander Effects of CAR T Cell Therapy in a Syngeneic Mouse Cancer Model. Mol Ther Oncolytics. 2020 Jul 15;18:360-371. doi: 10.1016/j.omto.2020.07.005. PMID: 32802940; PMCID: PMC7417672.
    - Link: https://www.sciencedirect.com/science/article/pii/S2372770520301091?via%3Dihub
  - Michie J, Beavis PA, Freeman AJ, Vervoort SJ, Ramsbottom KM, Narasimhan V, Lelliott EJ, Lalaoui N, Ramsay RG, Johnstone RW, Silke J, Darcy PK, Voskoboinik I, Kearney CJ, Oliaro J. Antagonism of IAPs Enhances CAR T-cell Efficacy. Cancer Immunol Res. 2019 Feb;7(2):183-192. doi: 10.1158/2326-6066.CIR-18-0428. Epub 2019 Jan 16. PMID: 30651288.
    - Link: https://aacrjournals.org/cancerimmunolres/article/7/2/183/469474/Antagonism-of-IAPs-Enhances-CAR-T-cell