Synthesis, Characterization, & Biological Evaluation of prodrugs for site selective drug release (One step towards targeted delivery in Cancer therapeutics)

Schematic illustration of the stimuli responsive prodrug conjugate to release active drug

Cancer is one of the most fatal diseases which is becoming a major widespread health issue, affecting a large amount of the population every year. It is the second leading cause of death in the U.S., only behind heart disease. Tremendous progress has been made over the last two decades in cancer treatment and improving the overall survival and quality of life of cancer patients. To enhance the efficacy and minimize the off-target toxicity, I synthesized an arsenal of prodrugs that takes advantage of the different tumor microenvironments in comparison to healthy tissues, to release the active drug selectively in malignant tumor areas and kill them effectively with minimum to no effect on normal cells. The use of local stimuli such as elevated protease levels, lower pH, light, heat, and hypoxic nature is being explored to achieve spatial and temporal control for drug delivery. Incorporating these pro-drugs with stimuli-cleavable linkers enhances their efficacy by increasing their water solubility for systemic administration, improving their circulation half-life, and allowing for selective release of the active drug only at tumor sites.

Date: Thursday, February 22, 2024
Location: Conference Room 219 at Toy F. Reid Employee center, Kingsport, TN

Agenda:
6:00 Social and Dinner
7:00 Presentation

Menu: Pratts BBQ
Coke, Iced Tea, Pulled pork sandwiches, Vegetable lasagna, Chips/Queso, Seasonal Fruit

The cost for the meal is $15/person – free for students (cash or check). Make check payable to "TVHS-ACS". Indicate the number in your party. RSVP's are fine with the understanding that payment will be made at the meeting. No cost to attend the presentation only.

You MUST RSVP ASAP!
RSVP is necessary for an adequate catering
Please reply to: Dane Scott
scottdw@etsu.edu
423-439-8652

Next meeting is tentative:
Tuesday, March 22, 2024
UVA Wise