Project Title: Development and evaluation of peptide conjugated antitumor drugs in combination with nucleobases deaminases for controlled and targeted drug delivery

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Theme: Development and targeted delivery of anticancer agents

Deliverables: Development of new biomaterials for target-specific and dose-dependent delivery of chemotherapeutic drugs

Societal impact: A major drawback in cancer treatment is that the medicines used have huge adverse effect on the patient. This project aims to reduce the side-effects of such chemotherapeutic treatment.

Outcome of the project:
New breaker peptides for targeted and controlled release of anticancer agents under physiological conditions; Development of functionalized silk and chitosan based bio-nanomaterials for target-specific delivery of antitumor agents; A combinatorial approach involving E. coli cytosine deaminase and 5-fluorocytosine-nanoparticles as an enzyme-prodrug therapeutic strategy; Cleavable peptide for photo-controlled release of the antitumor agents

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