Photo Dynamic Therapy using targeted organic nano particles (TARGET-PDT)

Photodynamic therapy (PDT) is an emerging modality for the treatment of various cancers. PDT consists of a photoactive drug known as a photosensitizer, its preferential uptake and retention in malignant tissues, and its subsequent activation by a visible laser light, leading to tumor destruction. Despite its many advantages, the use of PDT has been restrained due to ineffective targeting of the photosensitizers to the tumor and potential damage to nearby healthy cells. Therefore, the project will study the delivery of photosensitizers encapsulated into lipid nano-particles that will include tumor-specific antibodies, thereby improving targeting and minimizing destruction of healthy tissue.