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Laser Assisted Cancer Immunotherapy: Surface Irradiation JOSHUA WILSON, Hendrix College, HSIN-WEI CHEN, Hendrix College, PRADIP BANDYOPADHYAY, Hendrix College — Experiments in our laboratory incorporate a non-invasive approach to treat superficial tumors in animal models. Based on the concept of Laser Assisted Cancer Immunotherapy, surface irradiation provides good information to compare to invasive alternatives. The procedure involves injecting an immunoadjuvant (Glycated Chitosan) as well as a light absorbing dye (Indocyanine Green) directly into the tumor (5 to 7 mm in diameter). The temperature of the tumor is raised using an infrared diode laser operating at 804 nm, with a silica fiber tip placed a set distance away from the surface of the tumor. We monitor the surface temperature using non-invasive (infrared detector probe) as well as the internal temperature of the tumor using invasive (micro thermocouples) methods. This study aims at the success of the surface irradiation mode to treat solid tumors.
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