

Abstract Submitted
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Laser Assisted Cancer Immunotherapy: Mapping of the Necrosis Zone¹ MEGAN FITZMAURICE, PRADIP BANDYOPADHYAY, Hendrix College — The primary goal of this project is to assess the degree of thermal damage in malignant tumors using Laser Assisted Cancer Immunotherapy (LACI). In our laboratory, superficial tumors were grown in Balb/c mice by injection (s.c.) of the highly aggressive metastatic mammary cell line CRL-2539. When the tumors reached 5-7 mm in diameter, Indocyanine Green, a light absorbing dye, and Glycated Chitosan, the immunoadjuvant, were injected into the tumors. Following injection, the tumors were irradiated interstitially with an infrared Diode laser (1-15 W) operating at 805nm. Following the laser therapy, at a particular temperature, the tumors were excised at various time intervals ranging from immediately after treatment to 120 hours later. Using a Hematoxylin and Eosin stain, each slide was examined under the light microscope to map out the thermal damage induced by the diode laser and the dye-immunoadjuvant combination. The goal of this experiment is to quantify and map the thermal damage for 55°C, 65°C and 75°C, and to determine the temperature range that evokes maximum immune response.

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