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Optical Imaging for Determination of Apoptosis Medicated Therapeutic Efficacy

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Results: T/M ratios for PSVue®794 were 200% times higher than for PSVue®643 (P < 0.05). Both probes showed 25%-30% increased T/M ratios post DOX treatment, (P < 0.05) indicative of enhanced apoptosis. With PSVue®643 tumor intensity declined over time, but increased for intestine. With PSVue®794 tumor intensity and T/M ratios increased as a function of time, with a decreased M/O ratios for all organs.

Conclusion: OI of apoptotic BC cells mediated by DOX treatment permits to determine the effectiveness of DOX within 24 hrs. These results are consistent with those in another investigation in which F-18-FDG was used to monitor diminished metabolic activity following DOX treatment. PSVue®794 which eliminates radiation burden to normal organs is a preferable NIR fluorophore for determination of therapeutic effectiveness of BC by OI. Support: NIH 1S10 RR026678-01 (MLT).