

Supporting Information

Title: L-DNA-Based Probes for the Detection of Radiation-Induced DNA Strand Cleavage

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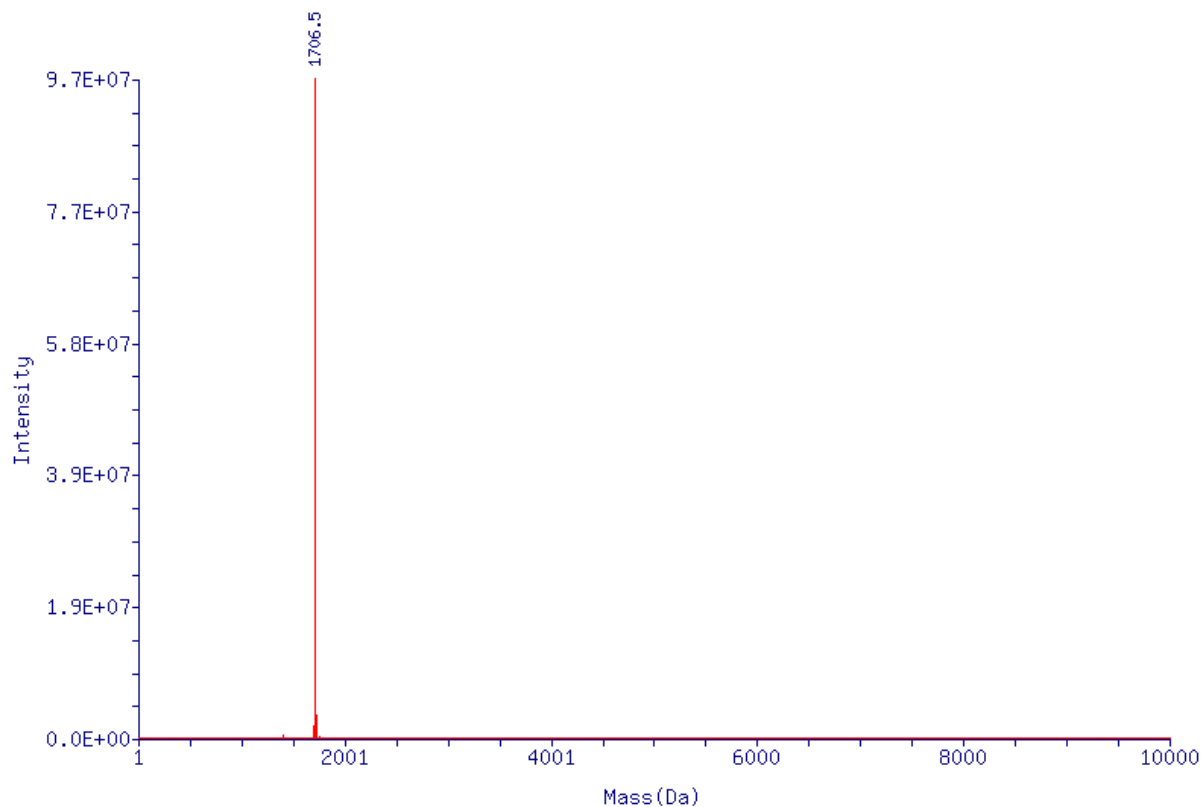


Figure S1. ESI-MS of D-T2. Mass calculated: 1707.5 Da; experimental mass: 1706.5 Da.

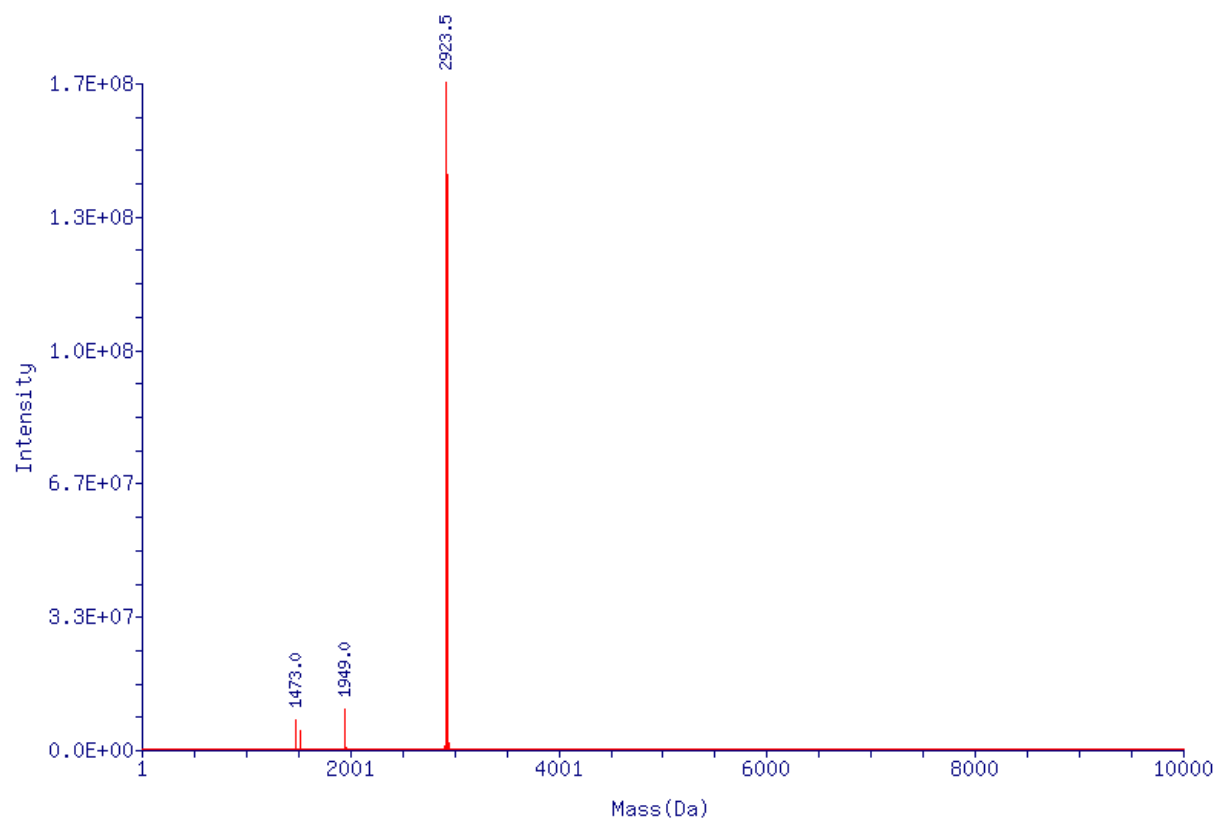


Figure S2. ESI-MS of D-T6. Mass calculated: 2924.3 Da; experimental mass: 2923.5 Da.

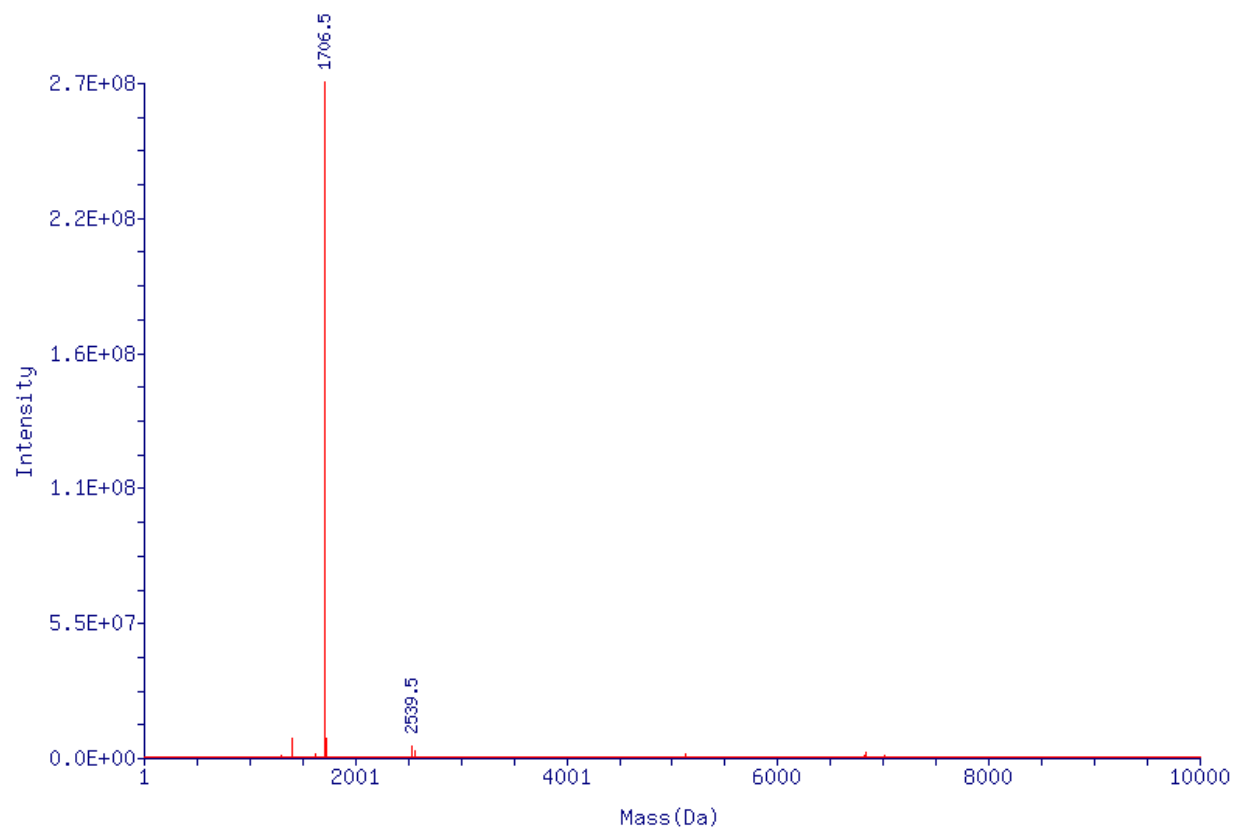


Figure S3. ESI-MS of L-T2. Mass calculated: 1707.5 Da; experimental mass 1706.5 Da.

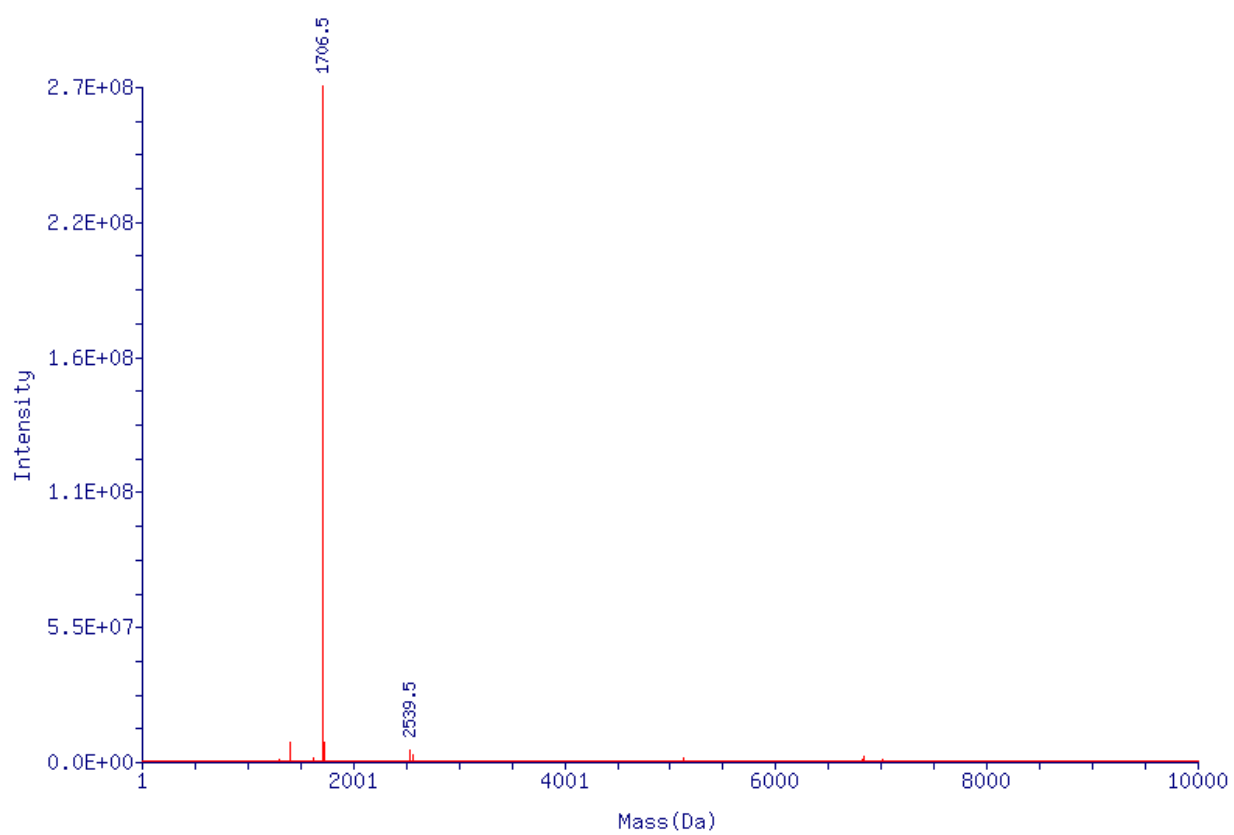


Figure S4. ESI-MS of L-T2. Mass calculated: 1707.5 Da; mass found 1706.5 Da.

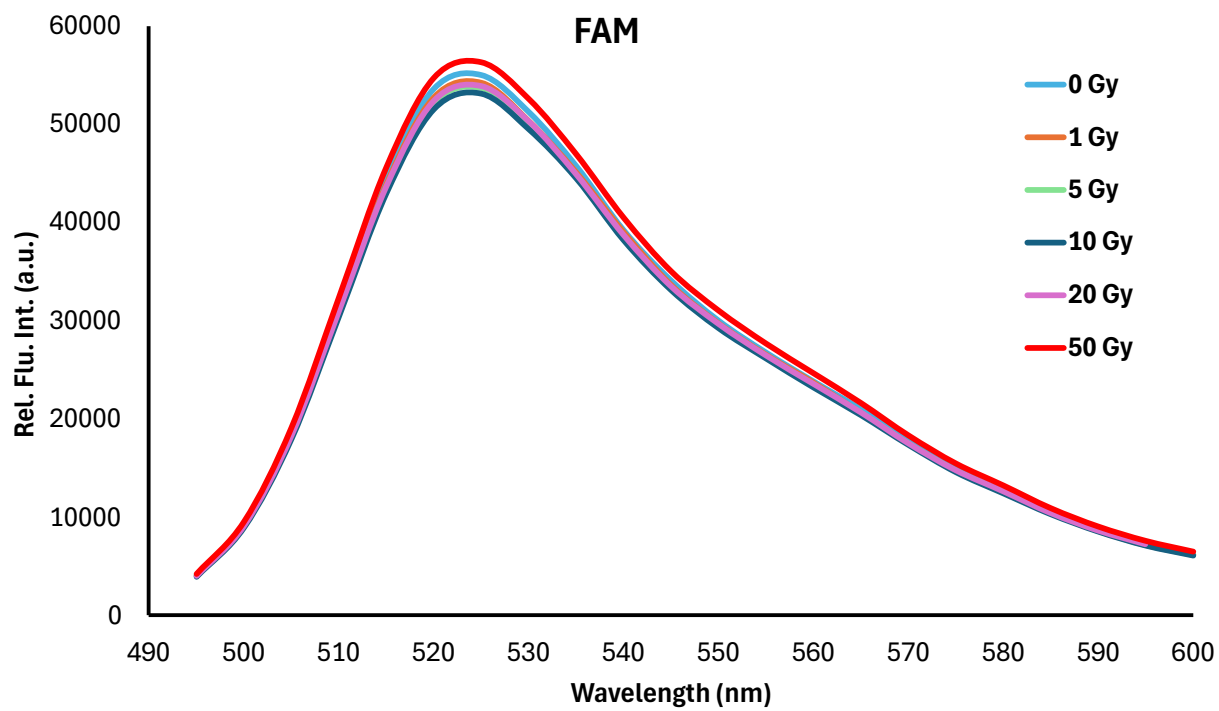


Figure S5. Emission spectra of FAM dye (excitation = 475 nm) irradiated up to 50 Gy.

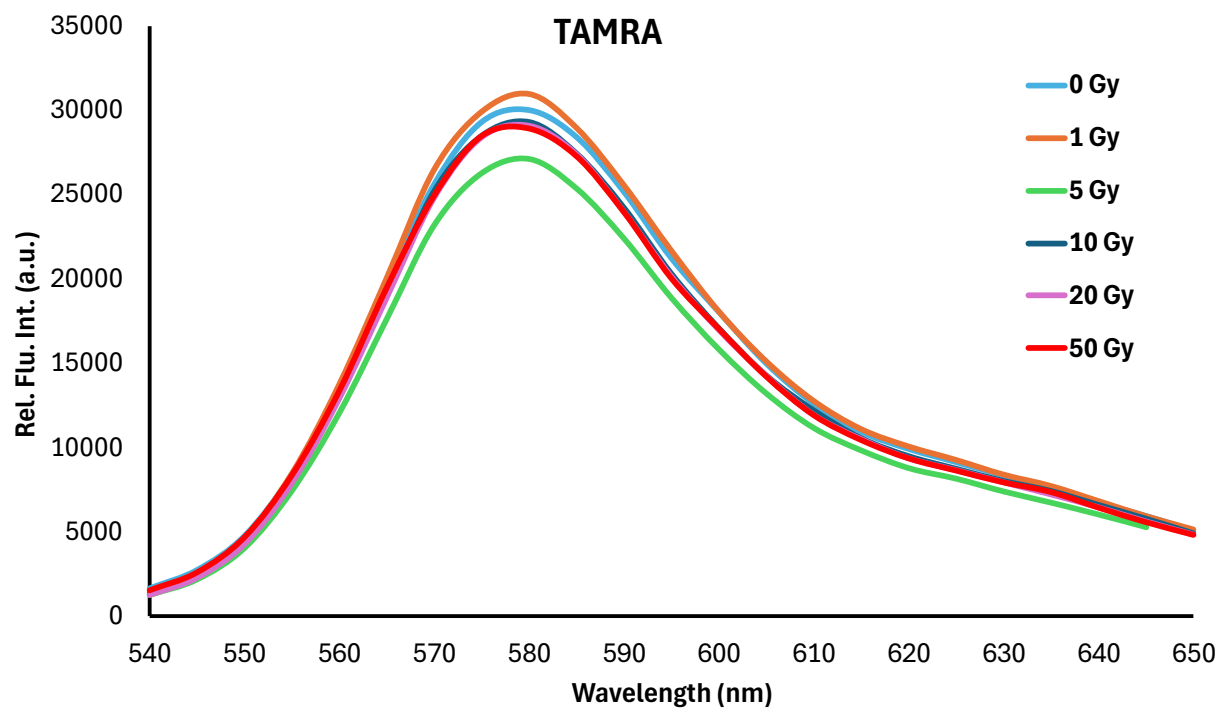


Figure S6. Emission spectra of TAMRA dye (excitation = 520 nm) irradiated up to 50 Gy.

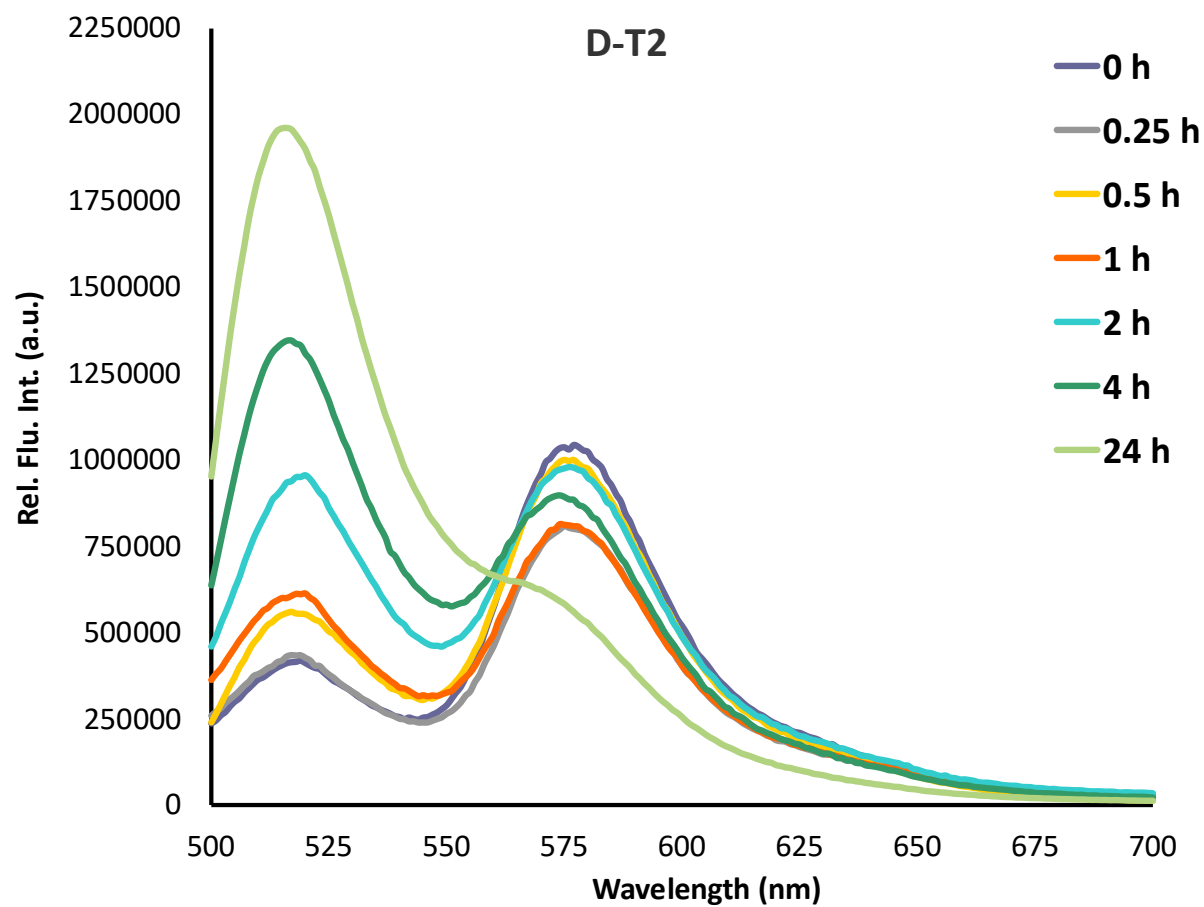


Figure S7. D-T2 Probe (50 nM) stability *in vitro* (10% FBS, PBS). Excitation = 475 nm.

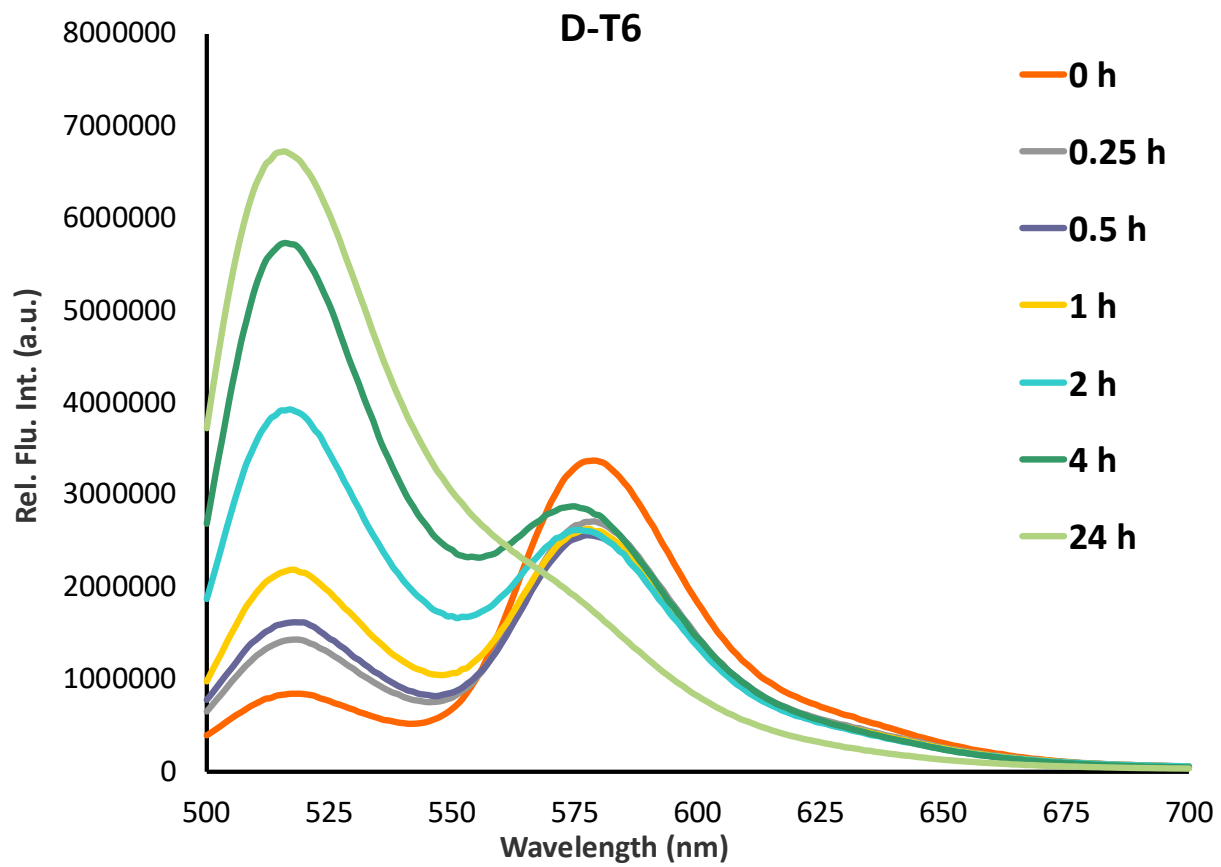


Figure S8. D-T6 Probe (50 nM) stability *in vitro* (10% FBS, PBS). Excitation = 475 nm.

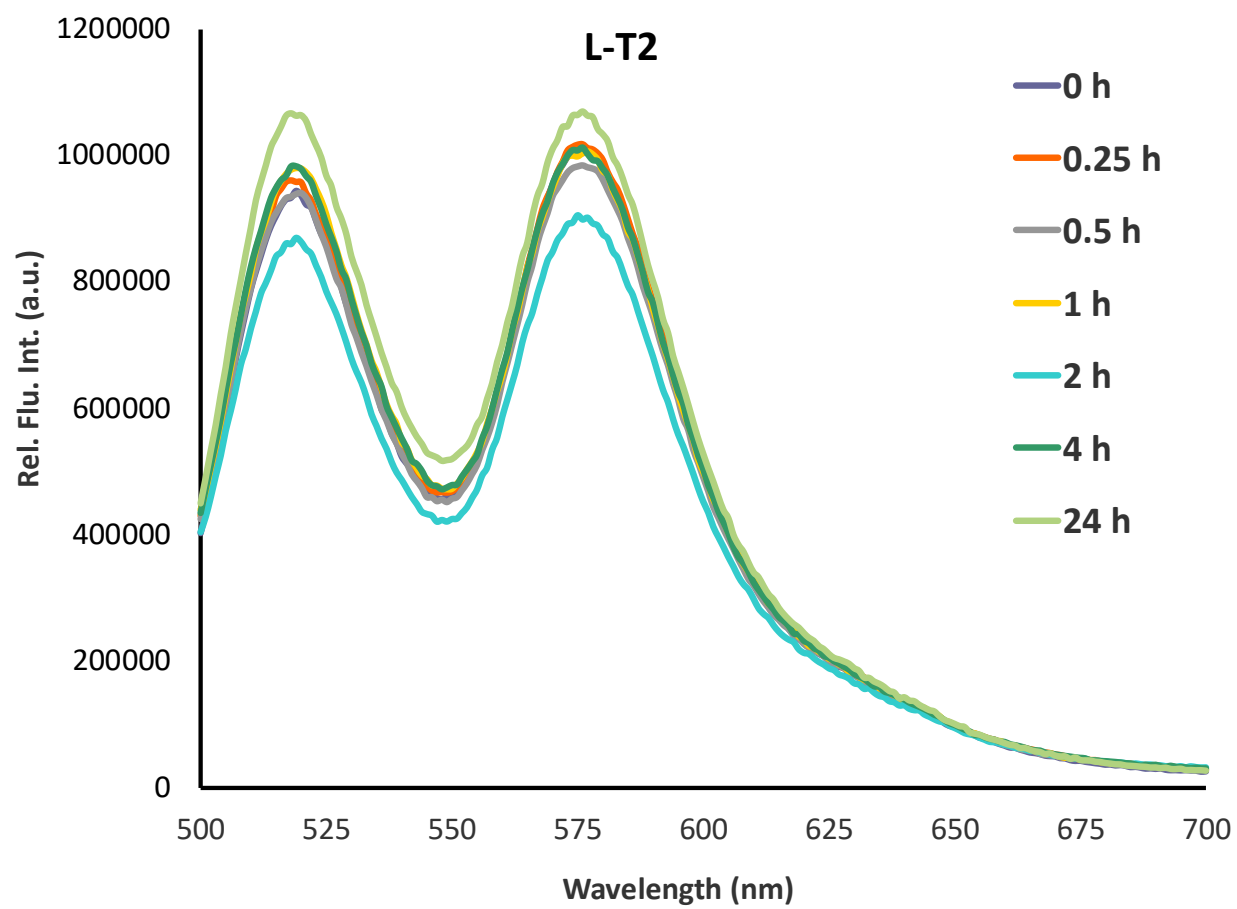


Figure S9. L-T2 Probe (50 nM) stability *in vitro* (10% FBS, PBS). Excitation = 475 nm.

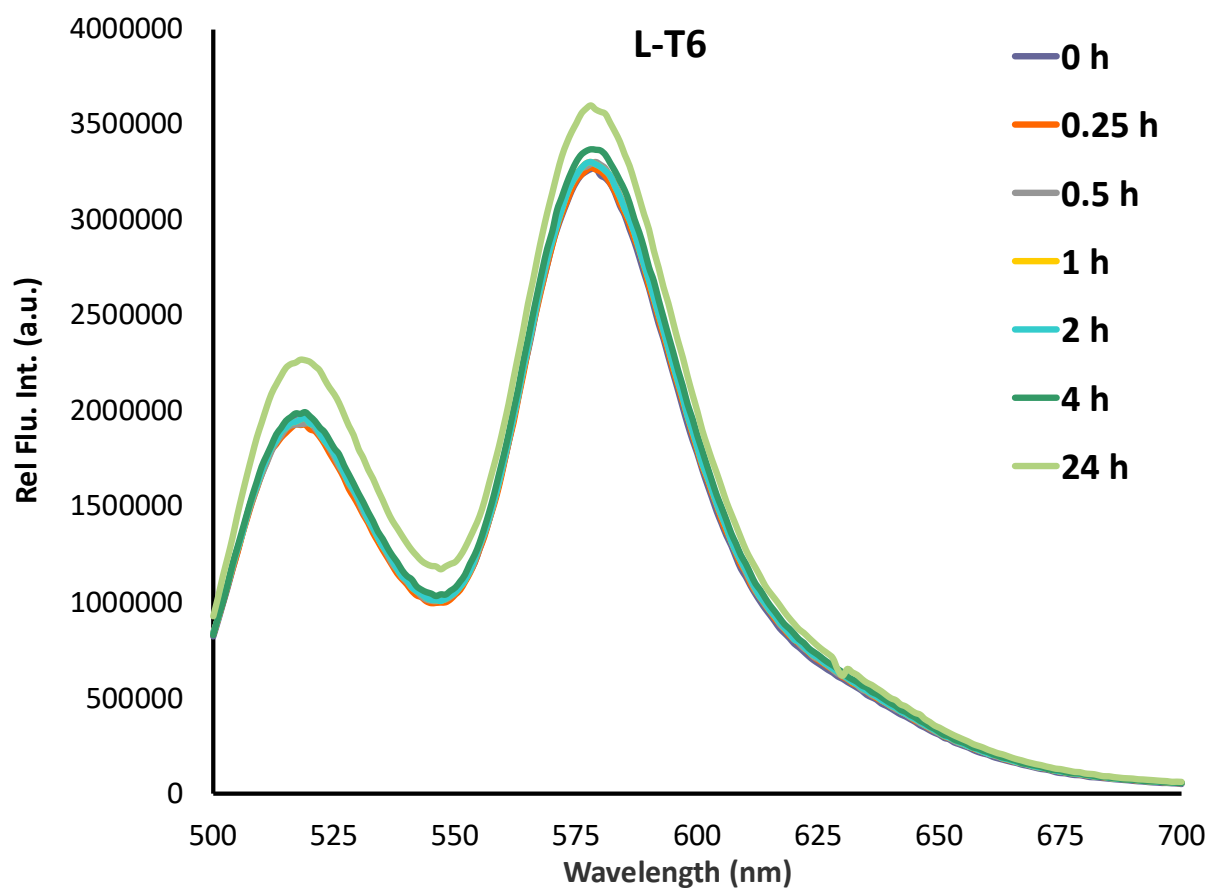


Figure S10. L-T6 Probe (50 nM) stability *in vitro* (10% FBS, PBS). Excitation = 475 nm.

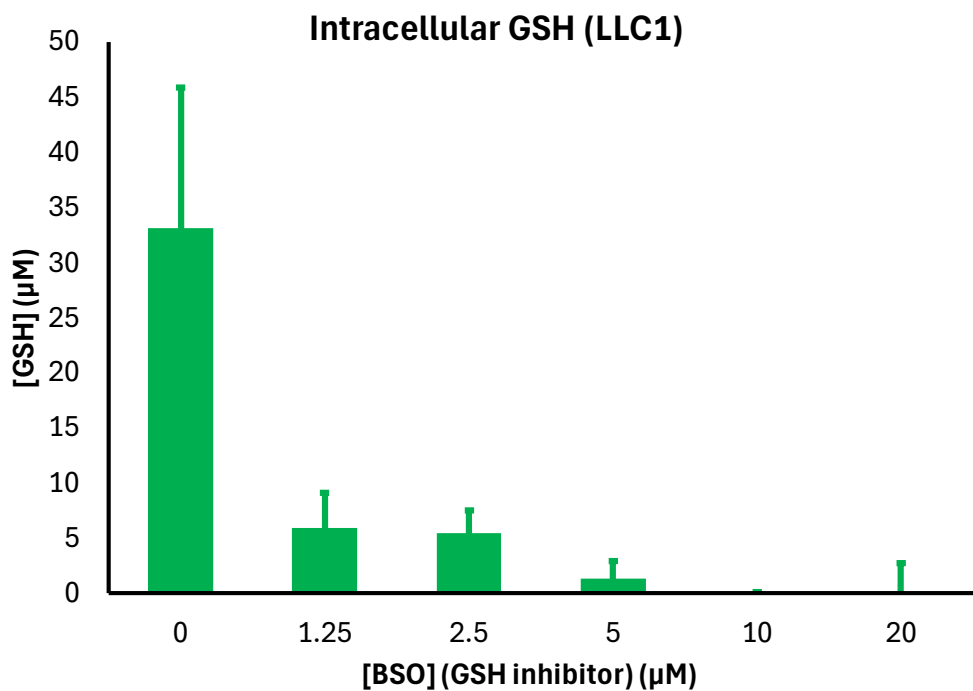
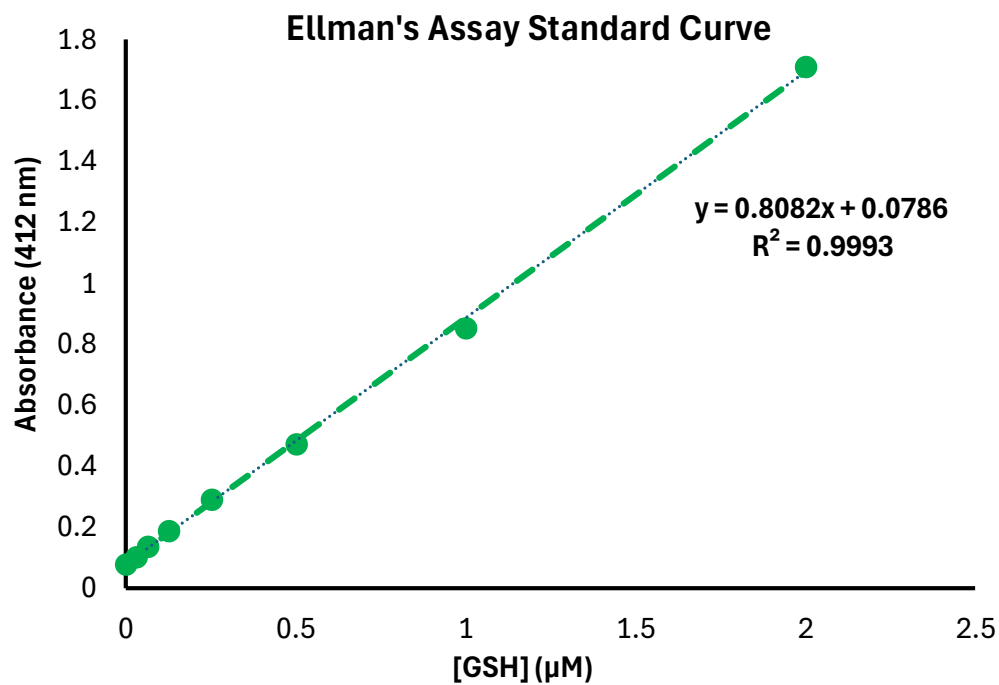


Figure S11. LLC1 cells treated with glutathione (GSH) inhibitor L-buthionine sulfoximine (BSO) for 72 h. A) Intracellular GSH concentration was determined through a modified Ellman's assay (reduced GSH was used as the standard). B) Intracellular GSH from LLC1 cells treated with BSO for 24 h.

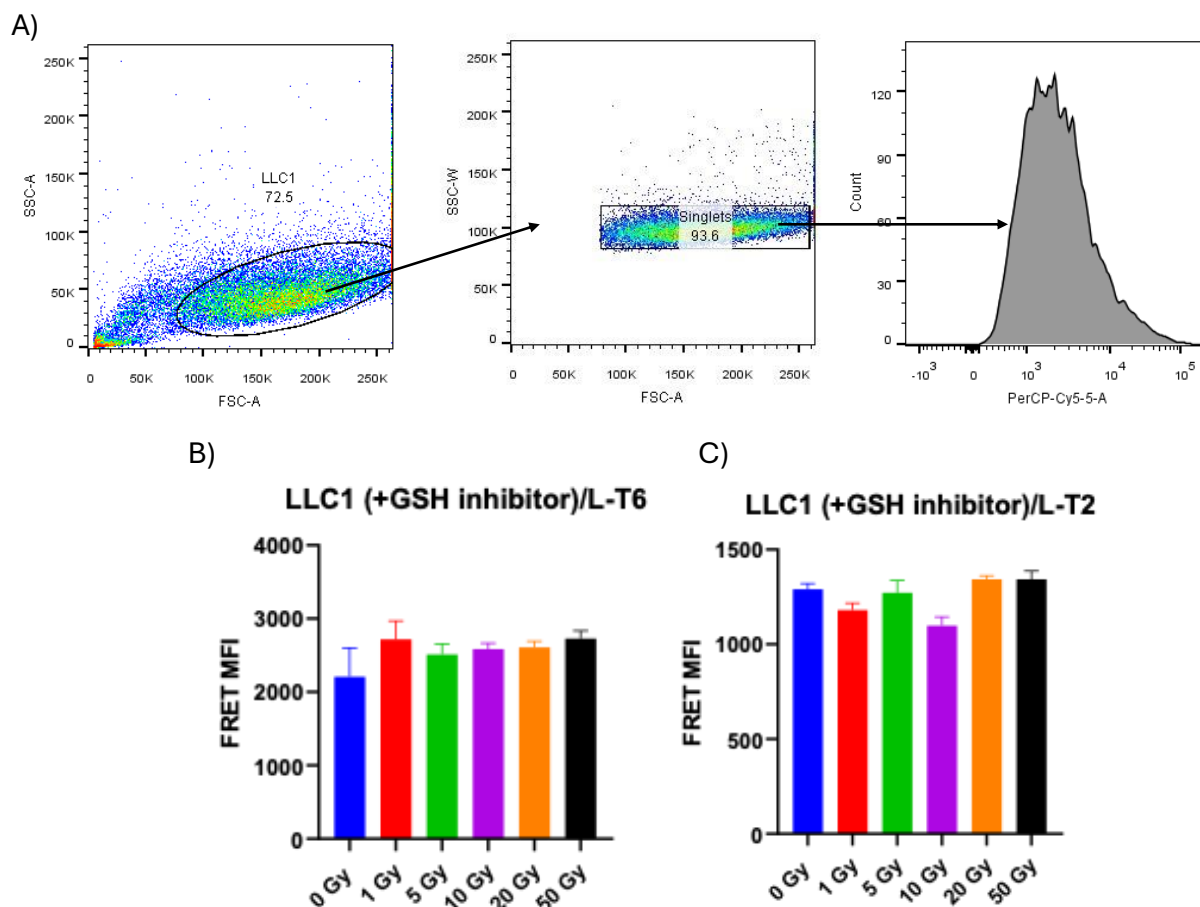


Figure S12. LLC1 cells treated with 5 μ M BSO (GSH inhibitor) for 72 h followed by FRET probe treatment and irradiation from 0 to 50 Gy. A) Flow cytometry gating strategy of LLC1 cells. FRET signal (MFI) after irradiation of LLC1 cells treated with BSO followed by uptake of B) L-T6 and C) L-T2.