Supplementary materials

Bioluminescence Sensing in 3D Spherical Microtissues for Multiple Bioactivity Analysis of Environmental Samples

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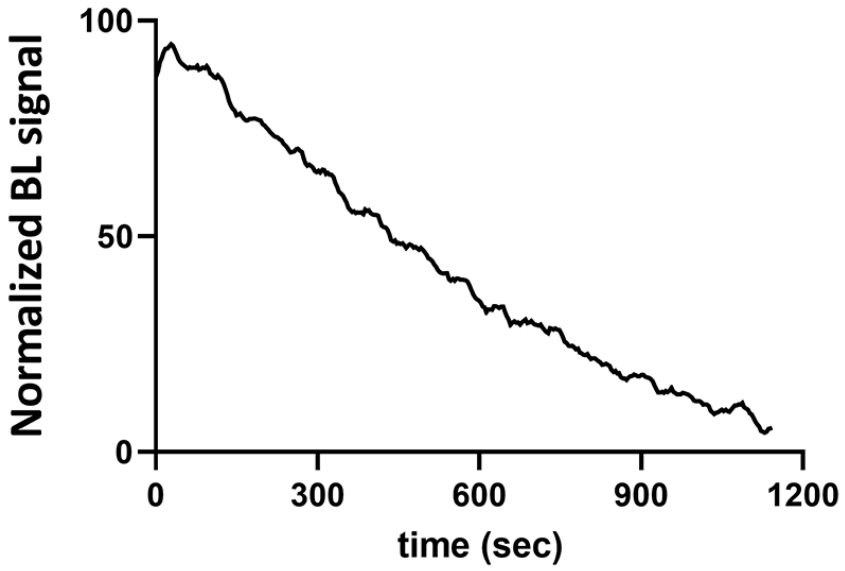

Figure S1: Emission kinetic of 3D spherical microtissue transfected with pCDNALuc2P after the addition of D-luciferin substrate (1.0 mM, pH 5.0).

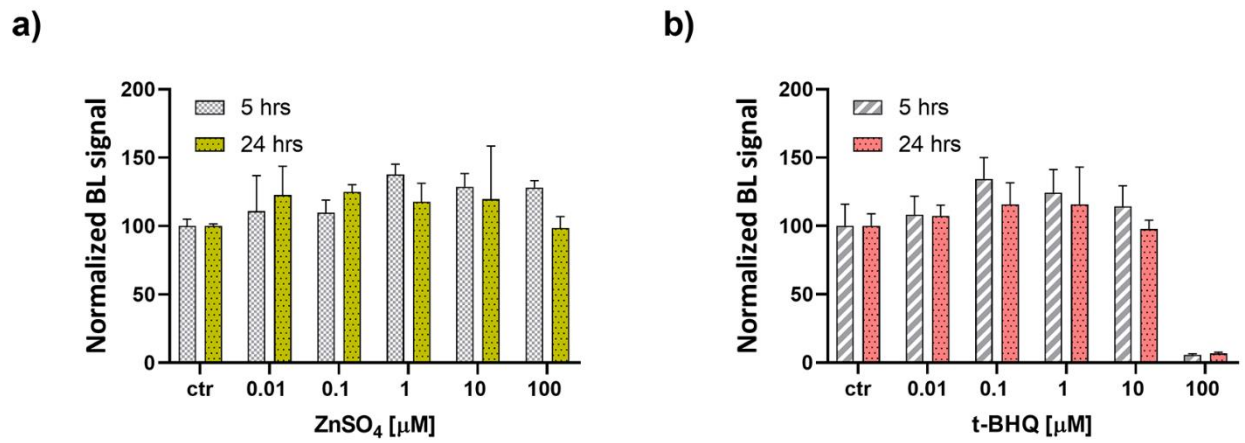

Figure S2: Toxicity dose-response curves obtained in 3D spherical microtissues transfected with pCDNALuc2P, grown in medium with charcoal stripped FBS 0.5% v/v and treated with a) $ZnSO_4$ solutions (concentration range from 0.01 to 100 µM) and with b) t-BHQ solutions (concentration range from 0.01 to 100 µM) (b) for 5hrs and 24 hrs.

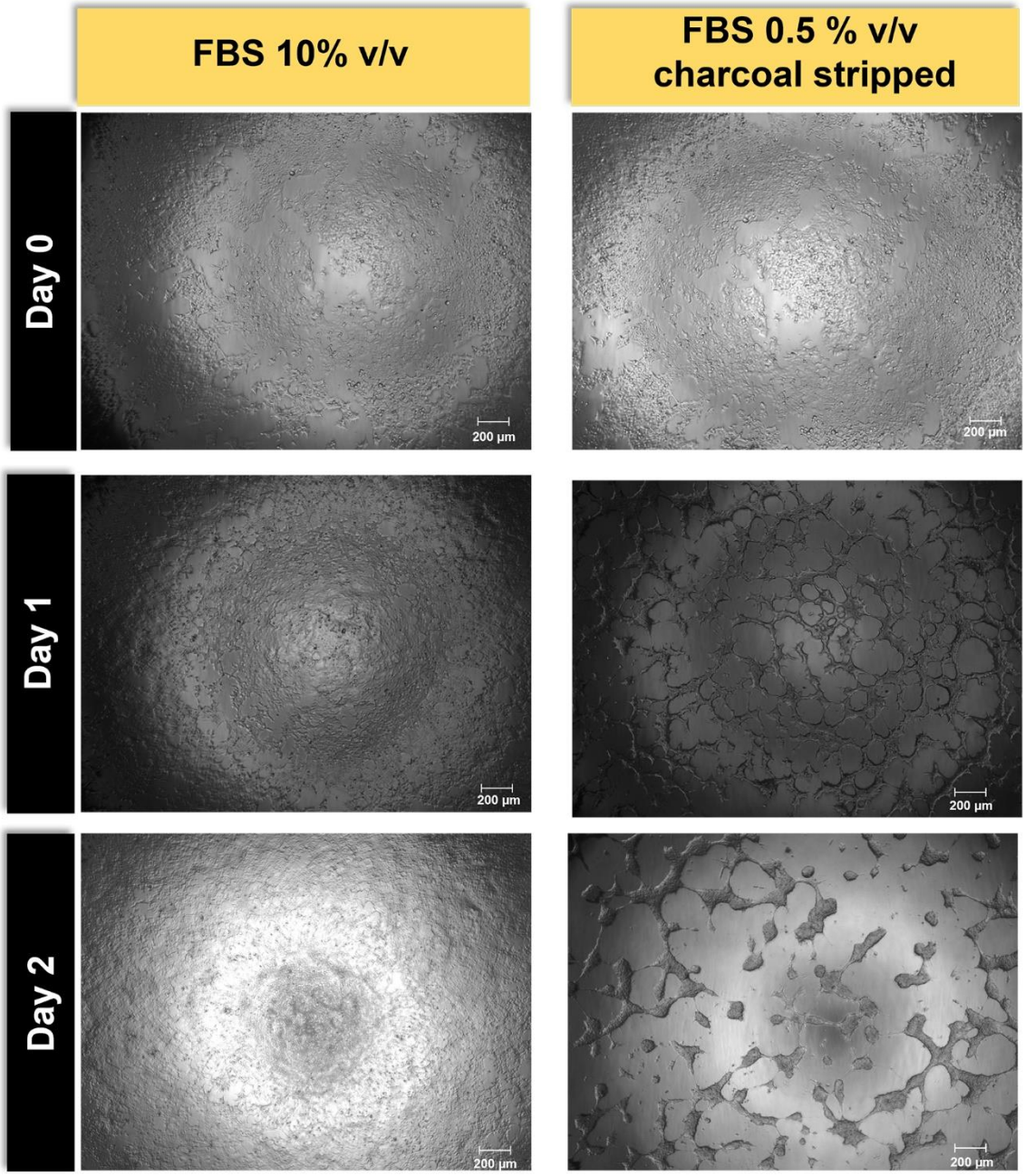

Figure S3: Growth monitoring of 2D cell cultures in 10% v/v FBS and charcoal stripped 0.5% v/v FBS. Brightfield images were acquired with Invitrogen Evos M5000 Imaging Systems Thermo Scientific using an objective 4x

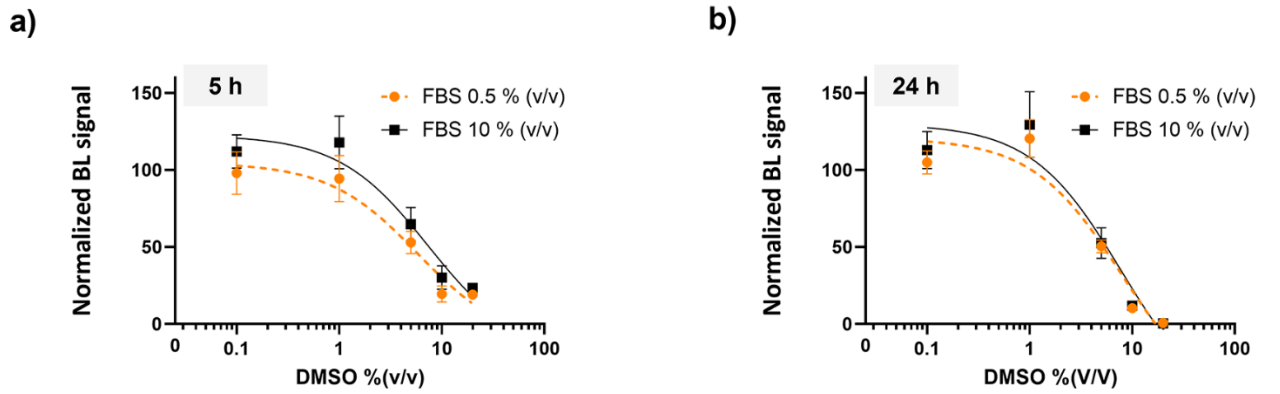

Figure S4: DMSO toxicity curves obtained at a) 5hrs and b) 24 hrs with 3D spherical microtissues cultured in FBS 0.5% (v/v) charcoal stripped and FBS 10% (v/v) medium.

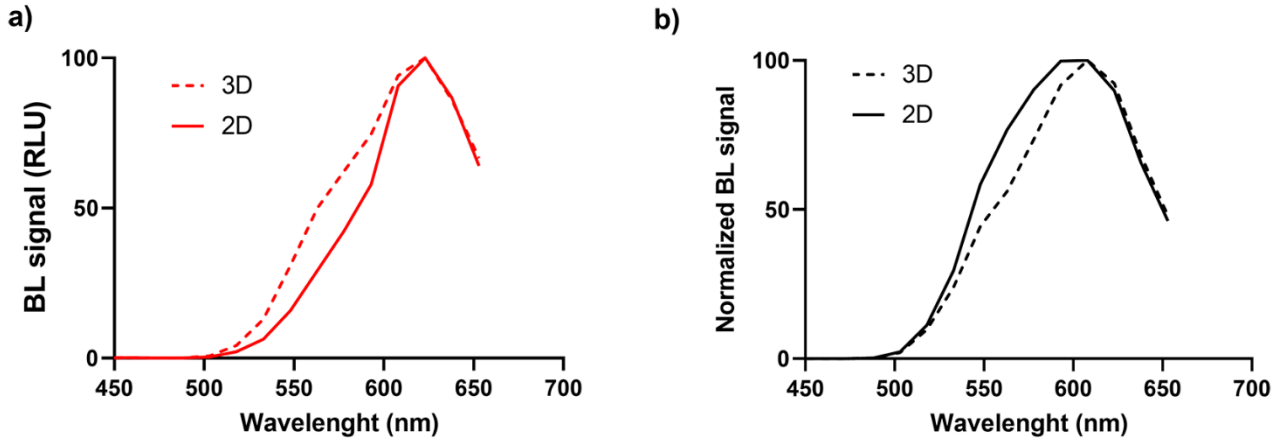

Figure S5: BL emission spectra obtained in 2D and 3D cell Hek293T models with a) D-Luciferin non-lysing substrate 1.0 mM in buffer citrate pH 5.0 and b) Bright-Glo™ commercial lysing substrate.

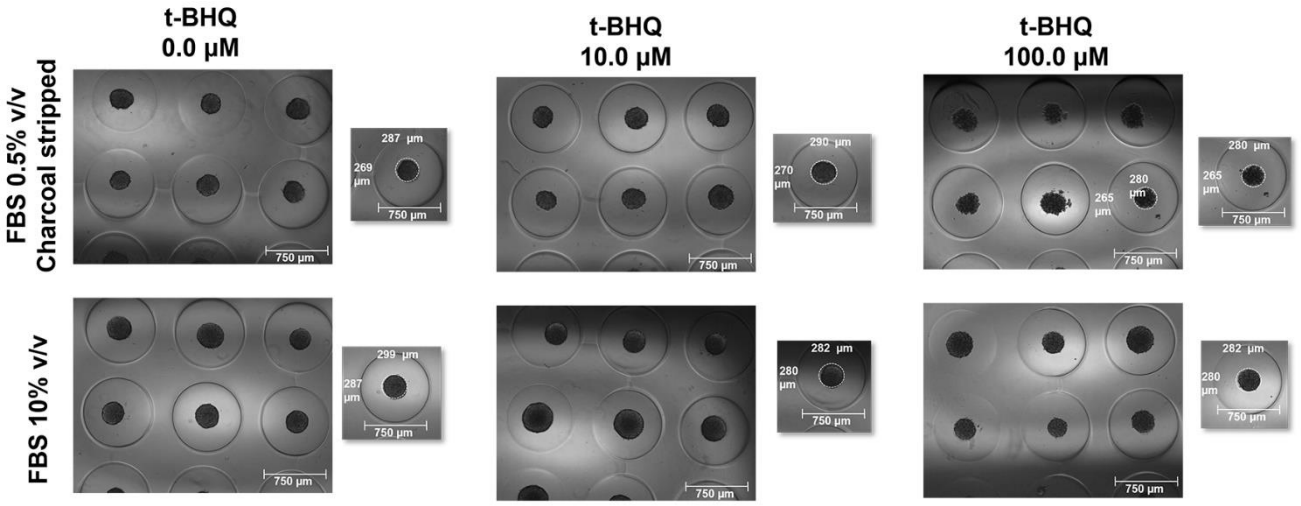

Figure S6: Brightfield images of 1 day-old HEK293T spheroids transfected with pGL4.37[luc2P/ARE/Hygro] and treated for 5 hrs with t-BHQ.

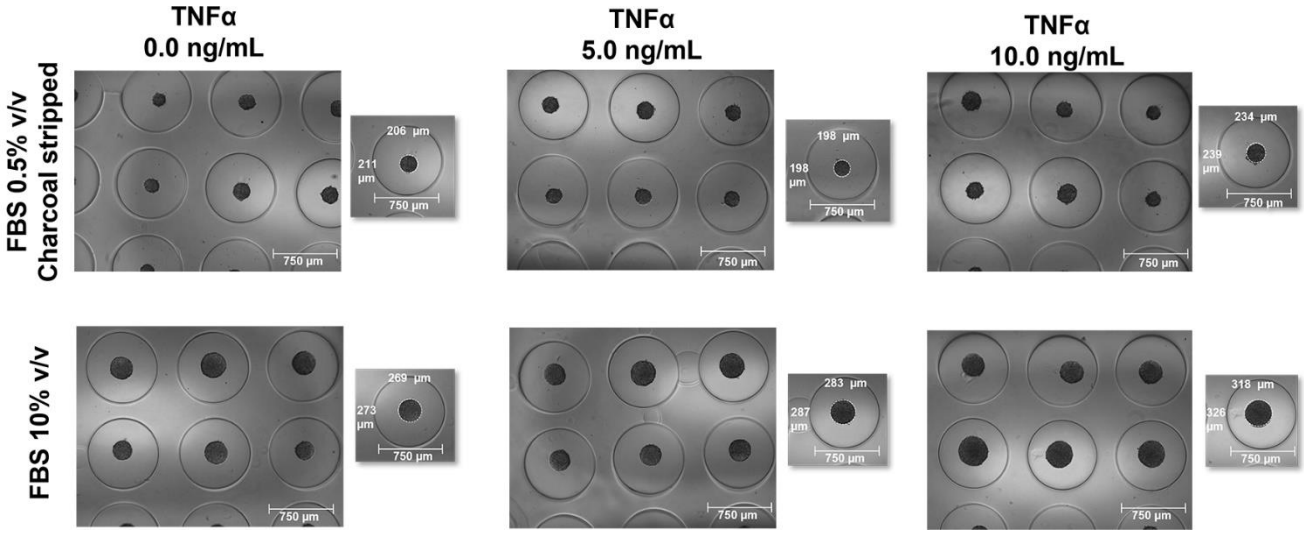

Figure S7: Brightfield images of 1 day-old HEK293T spheroids transfected with pGL4.32[luc2P/NF-κB-RE/Hygro] and treated for 5 hrs with TNFα.

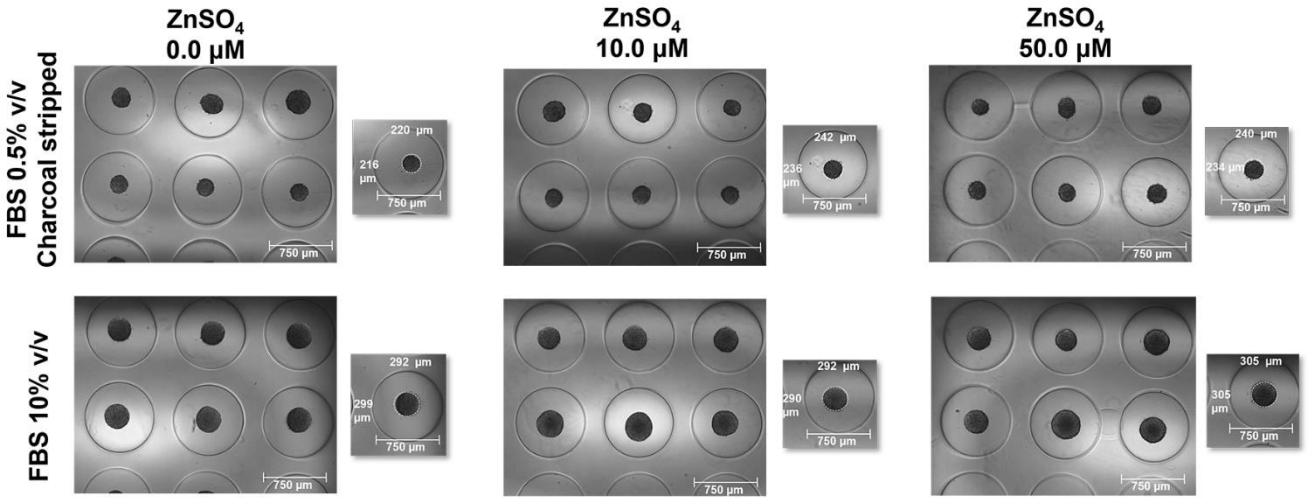

Figure S8: Brightfield images of 1 day-old HEK293T spheroids transfected with pGL4.40[luc2P/MRE/Hygro] and treated for 5 hrs with $ZnSO_4$.