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(54) Title: 3D HYDROGEL SYSTEM FOR CELL SCALE-UP AND BIOPRODUCTION

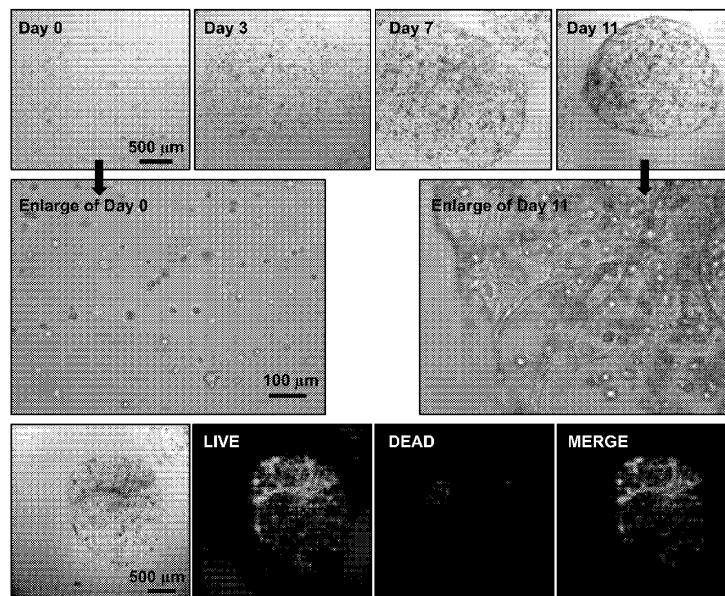


FIG. 1

(57) Abstract: New and improved hydrogels and methods associated therewith including their use for cell cultures and various other biomedical applications are disclosed. Because the instant invention does not rely on two dimensional surface area for cell growth but uses a three dimensional model, the hydrogels as disclosed herein have improved properties that allow for improved cell growth, easier and better harvesting and isolation of cells and small molecule products such as exosomes, as well as higher yields that can be achieved less expensively.

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