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FORMATIVE BIO FABRICATION USING MAGNETIC LEVITATION

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Several research groups in USA, Turkey and Russia recently demonstrated the principal feasibility of magnetic levitational bio assembly of tissue engineered constructs from living tissue spheroids in the presence of paramagnetic medium. However, employed paramagnetic medium containing Gadolinium is relatively toxic at concentration enabling magnetic levitation. Using high magnetic field at The European High Field Magnet Laboratory (HFML) at Nijmegen, The Netherland it was possible first time to perform magnetic levitational assembly of tissue constructs from tissue spheroids bio fabricated from osteosarcoma cells at 100 times lower concentration of Gadolinium. High magnetic field in this situation works as a temporal and removal support or scaffold. The magnetic levitation can serve as an earth-based model of space microgravity. Thus, formative bio fabrication of tissue engineered constructs from tissue spheroids in the high magnetic field is a promising research direction.