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(54) **Title**: 3D *IN VITRO* BI-PHASIC CARTILAGE-BONE CONSTRUCT

(57) **Abstract**: The present invention is directed to a 3D *in vitro* bi-phasic cartilage-bone organoid comprising: a) a layer of artificial cartilage tissue; and b) a layer of artificial bone tissue, wherein the artificial bone tissue comprises a structure-giving scaffold and a bone marrow structure; wherein the layer of artificial cartilage tissue contacts at least one surface of the layer of artificial bone tissue, as well as to uses and a method of production thereof.