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**Holy et al.**

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(54) **PROCESS FOR GROWING TISSUE IN A  
BIOCOMPATIBLE MACROPOROUS  
POLYMER SCAFFOLD AND PRODUCTS  
THEREFROM**

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C12N 5/08; C12N 11/08

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435/395; 435/396; 435/402

(58) **Field of Search** ..... 424/93.7, 423;  
435/180, 395, 396, 402

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(57) **ABSTRACT**

A polymer scaffold is provided comprising an extensively  
interconnected macroporous network. The polymer scaffold  
embodies macropores having a diameter in a range of  
0.5–3.5 mm, and preferably in a range of about 1.0–2.0 mm.  
The polymer scaffold is prepared using a novel process  
which advantageously combines the techniques of particu-  
late leaching and phase inversion to render a process that  
provides amplified means by which to control the morphol-  
ogy of the resulting polymer scaffold. The polymer scaffold  
has utility in the area of tissue engineering, particularly as a  
scaffold for both in vitro and in vivo cell growth.

**45 Claims, 15 Drawing Sheets**