

ABSTRACT

PLANT-BASED MICROFIBROUS SCAFFOLDS FOR CULTURING MEAT

The present disclosure relates to plant-based microfibrinous scaffolds and
5 a method for producing these scaffolds for culturing meat, providing a
biocompatible, edible, and scalable 3D structure that supports high cell
yield. The scaffold comprises plant-based proteins, polysaccharides, and
carbohydrates, eliminating the need for synthetic polymers and toxic
solvents. The method for producing these scaffolds comprises dissolving
10 the components, creating a homogeneous solution, spinning the fibers
using air volume and centrifugal forces, and heating to achieve
crosslinking. The resulting scaffolds have controlled fiber diameters,
thicknesses, and area densities, enhancing cell growth, nutrient diffusion,
and structural integrity and provide an efficient and sustainable solution
15 for large-scale cultured meat production.

(FIG. 1)