CLAIMS

[Claim 1] A cultured meat scaffold comprising:
a nanocellulose; and
a polymer hydrogel,
wherein a weight ratio of the nanocellulose to the polymer hydrogel is in a range of 1 : 4 to 3 : 2,
the scaffold has a pore diameter of 50 μm to 500 μm, a porosity of 70% to 95%, and a pore uniformity of 10% to 40%, and
the scaffold has a density of 1 gram per cubic centimeter (g/cm^3) to 10 g/cm^3, a strength of 0.1 megapascal (MPa) to 20 MPa, and an endotoxin level of 5 EU/mL or less.

[Claim 2] The cultured meat scaffold of claim 1, wherein the nanocellulose is in a form of a powder, a suspension, or a hydrogel.

[Claim 3] The cultured meat scaffold of claim 1, wherein the nanocellulose has a diameter of 1 nanometer (nm) to 10 micrometers (μm).

[Claim 4] The cultured meat scaffold of claim 1, wherein
the nanocellulose
has a gelation time of 1 second to 30 seconds.

[Claim 5] The cultured meat scaffold of claim 1, wherein endotoxin level in the nanocellulose is 5 endotoxin units per milliliter (EU/mL) or less.

[Claim 6] The cultured meat scaffold of claim 1, wherein the polymer hydrogel comprises at least one selected from a group consisting of collagen, chitosan, fibrin, agar, starch, alginate, hyaluronic acid, gelatin, dextran, elastin, carrageenan, polyethylene glycol, polyacrylic acid, polyvinyl alcohol, polyvinylpyrrolidone, polylactic acid, and polyglycolic acid.

[Claim 7] The cultured meat scaffold of claim 1, wherein the polymer hydrogel is in a form of a bead or bulk.

[Claim 8] A method of preparing the cultured meat scaffold of claim 1, the method comprising:
a step of preparing nanocellulose;

a step of mixing the nanocellulose with a polymer hydrogel; and

a step of performing freeze-drying.

[Claim 9] The method of claim 8, wherein the step of preparing the nanocellulose comprises:

a step of treating a cellulose at a temperature of 20°C to 50°C for 30 minutes to 3 hours;

a step of performing washing; and

a step of performing a nanotization.

[Claim 10] The method of claim 8, wherein the step of preparing the freeze-drying comprises performing the freeze-drying at a temperature of -50°C to -80°C for 48 hours to 72 hours.