CLAIMS

1. A three-dimensional discontinuous entity for culturing of cells comprising
   a. an aqueous medium; and
   b. hydrogel bodies comprising cellulose nanofibrils and/or derivatives thereof suspended in the aqueous medium,

   wherein the ~~ratio~~ fraction volume of total volume of the hydrogel bodies to total volume of the three-dimensional discontinuous entity is 10%-99% (v/v), preferably 50%-95% (v/v)
   and wherein the hydrogel is present as separate or interconnected hydrogel bodies.
2. The three-dimensional discontinuous entity according to claim 1 wherein the hydrogel bodies are interconnected.
3. The three-dimensional discontinuous entity according to claim 1 or 2 wherein the yield stress of the three-dimensional discontinuous entity is lower than the yield stress of ~~the~~ a corresponding continuous hydrogel in the same conditions.
4. The three-dimensional discontinuous entity according to claim 3 wherein the yield stress of the three-dimensional discontinuous entity is 1-95% of the yield stress of the corresponding continuous hydrogel in the same conditions.
5. The three-dimensional discontinuous entity according to any one of claims 1-4 wherein the cellulose nanofibrils are of plant origin.
6. The three-dimensional discontinuous entity according to any one of claims 1-5 wherein the diameter of the cellulose nanofibrils is less than 1 µm, preferably less than 200 nm, more preferably less than 100 nm.
7. The three-dimensional discontinuous entity according to any one of claims 1-6 wherein the cellulose nanofibrils comprise native ion-exchanged, chemically modified or physically modified derivatives of cellulose nanofibrils or nanofibril bundles.
8. The three-dimensional discontinuous entity according to any one of claims 1-7 wherein the aqueous medium is a cell culture medium comprising at least one nutrient source and at least one component required for sustaining undifferentiated, differentiating or differentiated cell growth.
9. A method for manufacturing a three-dimensional discontinuous entity for culturing cells comprising:

a. providing cellulose nanofibrils and/or derivatives thereof in a form of
   i. a homogeneous hydrogel;
   ii. a combination of the homogeneous hydrogel with an aqueous medium; and/or
   iii. dehydrated gel bodies or dry granulated cellulose nanofibrils or derivatives thereof hydrated in an aqueous medium; and
b. mixing in conditions favouring mechanical disruption of the homogeneous structure of the hydrogel to obtain a suspension of hydrogel bodies as a three-dimensional discontinuous entity,
   wherein in the three-dimensional discontinuous entity the ~~ratio~~ fraction volume of total volume of the hydrogel bodies to total volume of the three-dimensional discontinuous entity is 10%-99% (v/v), preferably 50%-95% (v/v).

10. The method according to claim 9 wherein step a. comprises cellulose nanofibrils provided in a form of the combination of the homogeneous hydrogel with an aqueous medium and, optionally, excess of the aqueous medium is removed.
11. The method according to claim 9 or 10 wherein cells are added and the aqueous medium is a cell culture medium.
12. A three-dimensional discontinuous entity for culturing of cells comprising an aqueous medium and hydrogel bodies comprising cellulose nanofibrils and/or derivatives thereof suspended in the aqueous medium, or a cell culture matrix comprising cells and/or tissue and a three dimensional discontinuous entity manufactured using the method according to any one of claims 9-11 wherein the hydrogel is present as separate or interconnected hydrogel bodies.
13. A cell culture matrix comprising cells and/or tissue and a three-dimensional discontinuous entity according to any one of the claims 1 – 8 or 12 wherein the cells and/or tissue are present at least partially embedded in said entity in a three-dimensional or two-dimensional arrangement and wherein the hydrogel is present as separate or interconnected hydrogel bodies.
14. ~~A~~ The cell culture matrix according to claim 13 wherein the cells are differentiated or undifferentiated mammalian cells.
15. ~~A~~ The cell culture matrix according to claim 13 wherein the cells are undifferentiated stem cells.
16. The cell culture matrix according to claim 13 or 15 wherein the cells are embryonic stem cells or induced pluripotent stem cells.
17. The cell culture matrix according to any one of claims 13-16 wherein the cells are human cells or non-human cells.
18. The cell culture matrix according to claim 17 wherein the cells are non-human embryonic stem cells or induced pluripotent stem cells.
19. An article for cell culture comprising
   a. a substrate having a surface;

b. a three-dimensional discontinuous entity according to any one of claims 1-8 or 12, or a three-dimensional discontinuous entity according to any one of claims 1-8 or 12 in a dehydrated form;

c. and optionally at least one component selected from the group consisting of a cell culture medium, extra cellular matrix components, serum, growth factors, proteins, antibiotics, preservatives.

20. Use of the three-dimensional discontinuous entity according to any one of claims 1-8 or 12, or the article according to claim 19 for culturing cells or tissues.

21. A method of transporting cells, wherein the cells are transported in the three-dimensional discontinuous entity according to any one of claims 1-8 or 12, or in the article according to claim 19.

22. A method for three-dimensional or two-dimensional culturing of cells or tissues comprising providing the three-dimensional discontinuous entity according to any one of claims 1-8 or 12, or the article according to claim 19, inoculating at least one cell with the three-dimensional discontinuous entity; and culturing to obtain a cell mass.

23. The method according to claim 22 wherein at least two cell types of different origin are cultured as a co-culture.

24. The method according to any one of claims 22-23 wherein the cells form complexes with the hydrogel bodies.

25. The method according to any one of claims 22-24 wherein at least one subculture is carried out by passaging the cultured cells at least once during culturing.

26. The method according to claim ~~22-24~~ 25 wherein the passaging comprises cell mass separation from the three-dimensional discontinuous entity wherein the three-dimensional discontinuous entity is treated with an enzyme.

27. The method according to claim 26 wherein the three-dimensional discontinuous entity is enzymatically treated with a cellulase for a time sufficient to at least partly release cell mass.

28. The method according to claim 27 wherein the cellulase is inactivated or removed from the cell mass after enzymatic treatment.

29. The method according to any one of claims 21-28 wherein the cells comprise undifferentiated cells, such as stem cells, and the cells are maintained undifferentiated between passages.