CLAIMS

Claim 1. A resin film formed of a cell culture scaffold material,

the cell culture scaffold material containing a synthetic resin,

the synthetic resin being a synthetic resin having a peptide portion,

the synthetic resin part and the peptide portion being bonded via a linker in the synthetic resin having a peptide portion,

the resin film having a phase-separated structure including at least a first phase and a second phase,

the phase-separated structure being a sea-island structure,

the first phase being a sea part, and the second phase being an island part,

the second phase having the peptide portion,

the average diameter of the second phases as island parts being 10 nm or more and 1 μm or less, and

a ratio of the surface area of the second phase to the entire surface being 0.01 or more and 0.95 or less,

wherein the average diameter of the second phases as island parts is obtained as an average diameter of circles of the same area,

wherein the ratio of the surface area of the second phase to the entire surface is obtained by, within an observation region of 30 μm × 30 μm, dividing a surface area occupied by the second phase by an area of the observation region.

Claim 2. A resin film formed of a cell culture scaffold material,

the cell culture scaffold material containing a synthetic resin,

the synthetic resin being a synthetic resin having a peptide portion,

the synthetic resin part and the peptide portion being bonded via a linker in the synthetic resin having a peptide portion,

the resin film having a phase-separated structure including at least a first phase and a second phase,

the phase-separated structure being a sea-island structure,

the first phase being a sea part, and the second phase being an island part,

the second phase having the peptide portion,

the number of the second phase as an island part being 1 piece/μm^2 or more and 5,000 pieces/μm^2 or less, and

a ratio of the surface area of the second phase to the entire surface being 0.01 or more and 0.95 or less,

wherein the number of second phases as island parts is obtained by dividing the number of second phases in an observation region of 30 μm × 30 μm by the area of the observation region,

wherein the ratio of the surface area of the second phase to the entire surface is obtained by, within an observation region of 30 μm × 30 μm, dividing a surface area occupied by the second phase by an area of the observation region.

Claim 3. The resin film according to claim 1 or 2, wherein

the ratio of the peripheral length to the area of the second phase (peripheral length/area) is 0.001 (1/nm) or more and 0.40 (1/nm) or less, and

the ratio of the peripheral length to the area of the second phase (peripheral length/area) is obtained by, within an observation region of 30 μm × 30 μm, dividing a total peripheral length of the second phase by a total area of the second phase.

Claim 4. The resin film according to any one of claims 1 to 3, wherein the phase-separated structure is composed of a phase-separated structure within a molecule of the synthetic resin.

Claim 5. The resin film according to any one of claims 1 to 4, wherein

the synthetic resin has a cationic functional group in a structural part other than the peptide portion, and

the content of the cationic functional group contained in a structural unit of the synthetic resin is 0.2 mol% or more and 50 mol% or less.

Claim 6. The resin film according to any one of claims 1 to 5, wherein the peptide portion has a cell-adhesive amino acid sequence.

Claim 7. The resin film according to any one of claims 1 to 6, which has a water swelling ratio of 50% or less.

Claim 8. The resin film according to any one of claims 1 to 7, which has a storage elastic modulus at 100°C of 1.0×10^4 Pa or more and 1.0×10^8 Pa or less, and

a ratio of a storage elastic modulus at 25°C to a storage elastic modulus at 100°C ((storage elastic modulus at 25°C)/(storage elastic modulus at 100°C)) of 1.0×10^1 or more and 1.0×10^5 or less.

Claim 9. The resin film according to any one of claims 1 to 8, wherein the cell culture scaffold material does not substantially contain animal-derived raw materials.

Claim 10. The resin film according to any one of claims 1 to 9, wherein the synthetic resin contains a vinyl polymer.

Claim 11. The resin film according to any one of claims 1 to 10, wherein the synthetic resin contains at least a polyvinyl alcohol derivative or a poly(meth)acrylic acid ester.

Claim 12. A cell culture carrier, comprising:

a carrier; and

the resin film according to any one of claims 1 to 11,

the resin film being arranged on a surface of the carrier.

Claim 13. A cell culture vessel, comprising:

a vessel body; and

the resin film according to any one of claims 1 to 11,

the resin film being arranged on a surface of the vessel body.