Claims

[Claim 1] A sheet comprising a nonwoven fabric formed of fiber containing an aliphatic polyester, wherein

the aliphatic polyester contained in the fiber has a molecular weight distribution in which a maximum value exists in at least two or more regions of the molecular weight,

a thickness of the sheet is 30 to 70 μm,

a porosity of the sheet is 60 ~~50~~ to 80 ~~90~~ % and

the sheet has a cell infiltration suppressing action.

~~[Claim 2] The sheet according to claim 1, wherein a thickness of the sheet is 30 to 70 μm.~~

[Claim 2~~3~~] The sheet according to claim 1 ~~or 2~~, wherein a weight of the sheet is 0.5 to 10 mg/cm^2.

[Claim 3~~4~~] The sheet according to claim 1 or 2 ~~any one of claims 1 to 3~~, wherein a density of the sheet is 100 to 1000 mg/cm^3.

[Claim 4~~5~~] The sheet according to any one of claims 1 to 3~~4~~, wherein the fiber has an average fiber diameter of 300 to 1500 nm.

~~[Claim 6] The sheet according to any one of claims 1 to 5, wherein the aliphatic polyester contained in the fiber has a molecular weight distribution in which a maximum value exists in at least two or more regions of the molecular weight~~.

[Claim 5~~7~~] The sheet according to any one of claims 1 to 4 ~~claim 6,~~ wherein at least one of the regions of the molecular weight is a region of a number average molecular weight of 1000 to 7000 before sterilization treatment.

[Claim 6~~8~~] The sheet according to any one of claims 1 to 5 ~~claim 6 or 7~~, wherein at least one of the regions of the molecular weight is a region of a number average molecular weight of 40000 to 150000 before sterilization treatment.

[Claim 7~~9~~] The sheet according to any one of claims 1 to 6 ~~claim 6 or 7,~~ wherein at least one of the regions of the molecular weight is a region of a number average molecular weight of 50000 to 140000 before sterilization treatment.

[Claim 8~~10~~] The sheet according to any one of claims 1 to 7 ~~6 to 9~~, wherein the region of the molecular weight is at least two regions of a region of a number average molecular weight of 1000 to 7000 and a region of a number average molecular weight of 40000 to 150000 before sterilization treatment.

[Claim 9~~11~~] The sheet according to any one of claims 1 to 8 ~~6 to 9~~, wherein the region of the molecular weight is at least two regions of a region of a number average molecular weight of 1000 to 7000 and a region of a number average molecular weight of 50000 to 140000 before sterilization treatment.

[Claim 10~~12~~] The sheet according to any one of claims 1 to 9 ~~6 to 11~~, wherein, when the aliphatic polyester having a maximum value on a lowest molecular weight side among the aliphatic polyesters contained in the fiber that form the nonwoven fabric is defined as a low molecular weight component, and the aliphatic polyester having a maximum value on a highest molecular weight side among the aliphatic polyesters contained in the fiber that form the nonwoven fabric is defined as a high molecular weight component, a mass ratio of a content of the low molecular weight component to a sum of a content of the low molecular weight component and a content of the high molecular weight component in the nonwoven fabric is 0.01 or more and 0.3 or less.

[Claim 11~~13~~] The sheet according to any one of claims 1 to 10 ~~6 to 11~~, wherein, when the aliphatic polyester having a maximum value on a lowest molecular weight side among the aliphatic polyesters contained in the fiber that form the nonwoven fabric is defined as a low molecular weight component and the aliphatic polyester having a maximum value on a highest molecular weight side among the aliphatic polyesters contained in the fiber that form the nonwoven fabric is defined as a high molecular weight component, a mass ratio of a content of the low molecular weight component to a sum of a content of the low molecular weight component and a content of the high molecular weight component in the nonwoven fabric is 0.02 or more and 0.2 or less.

[Claim 12~~14~~] The sheet according to any one of claims 1 to 11~~13~~, wherein the aliphatic polyester is biodegradable.

[Claim 13~~15~~] The sheet according to claim 12~~14~~, wherein the biodegradable aliphatic polyester is at least one selected from the group consisting of polycaprolactone, polycaprolactone diol, polylactic acid, polyglycolic acid, and copolymers thereof.

[Claim 14~~16~~] The sheet according to claim 12~~14~~ or 13~~15~~, wherein the biodegradable aliphatic polyester is at least one selected from the group consisting of polycaprolactone, polycaprolactone diol, and copolymers thereof.

[Claim 15~~17~~] The sheet according to any one of claims 1 to 14~~16~~, wherein the cell is an inflammatory cell.

[Claim 16~~18~~] The sheet according to any one of claims 1 to 15~~17~~, wherein the sheet has further a neuroprotective and/or nerve regeneration promoting action.

[Claim 17~~19~~] The sheet according to claim 16~~18~~, wherein the neuroprotective and/or nerve regeneration promoting action results from suppression of neural scarring.

[Claim 18~~20~~] The sheet according to any one of claims 1 to 17~~19~~, wherein the sheet contains further a drug.

[Claim 19~~21~~] The sheet according to claim 18~~20~~, wherein the drug is a therapeutic agent for nerve injury.

[Claim 20~~22~~] The sheet according to claim 19~~21~~, wherein the therapeutic agent for nerve injury is vitamin B12.

[Claim 21~~23~~] The sheet according to claim 20~~22~~, wherein the vitamin B12 is methylcobalamin.

[Claim 22~~24~~] The sheet according to claim 20~~22~~ or 21~~23~~, wherein a content of the vitamin B12 is 0.005 to 0.5 mg per 1 cm^2 of the sheet.

[Claim 23~~25~~] The sheet according to claim 20~~22~~ or 21~~23~~ above, wherein a content of the vitamin B12 is 0.0075 to 0.4 mg per 1 cm^2 of the sheet.

[Claim 24~~26~~] The sheet according to any one of claims 1 to 23~~25~~, wherein the sheet is used by being implanted into a periphery of a nerve injury site in a living body.

[Claim 25~~27~~] The sheet according to any one of claims 1 to 23~~25~~, wherein the sheet is used by being wound around a nerve at a nerve injury site in a living body.

[Claim 2628] The sheet according to claim 2426 or 2527, wherein the living body is a human.

[Claim 2729] The sheet according to any one of claims 1 to 2628, wherein the sheet is subjected to sterilization treatment.

[Claim 2830] The sheet according to claim 2729, wherein the sterilization treatment is electron beam sterilization or EOG sterilization.

[Claim 29] Use of a nonwoven fabric formed of fiber containing an aliphatic polyester, wherein

the aliphatic polyester contained in the fiber has a molecular weight distribution in which a maximum value exists in at least two or more regions of the molecular weight,

a thickness of the nonwoven fabric is 30 to 70 μm and

a porosity of the nonwoven fabric is 60 to 80%,

in the manufacture of a sheet having a cell infiltration suppressing action.

[Claim 30]

The use according to claim 29, wherein the nonwoven fabric contains further a drug.