【CLAIMS】

【Claim 1】

A cell sheet for transplantation to a cancer-occurring site or a cancer-removed site comprising

a cell layer containing somatic cells as a support, and

a cell layer containing cancer cells or stem cells, to which a viral vector is introduced.

【Claim 2】

The cell sheet of claim 1, wherein the somatic cells are one or more selected from the group consisting of fibroblasts, chondrocytes, epithelial cells, myoepithelial cells, dermal cells, epithelial keratinocytes, Schwann cells, glial cells, osteoblasts, cardiomyocytes, megakaryocytes, adipocytes, stem cells and cancer cells.

【Claim 3】

The cell sheet of claim 1, wherein the viral vector is one or more selected from the group consisting of a recombinant adenovirus, an adeno-associated virus (AAV), a retrovirus, a lentivirus, Herpes simplex virus, vaccinia virus, a reovirus, a poxvirus, Semliki forest virus and Measles virus.

【Claim 4】

The cell sheet of claim 1, wherein the viral vector is a recombinant adenovirus.

【Claim 5】

The cell sheet of claim 4, wherein the recombinant adenovirus is a replication-incompetent adenovirus or oncolytic adenovirus.

【Claim 6】

The cell sheet of claim 1,

wherein the cancer cells are irradiated.

【Claim 7】

The cell sheet of claim 1, wherein the viral vector is loaded at a multiplicity of infection (MOI) of 0.1 to 500.

【Claim 8】

A method of preparing a cell sheet for transplantation to a cancer-occurring site or a cancer-removed site, comprising:

forming a cell layer including somatic cells as a support on a temperature-responsive culture dish including a temperature-responsive polymer;

forming a cell layer including cancer cells or stem cells on the cell layer;

introducing a viral vector to the cell layer including cancer cells or stem cells, and

separating the cell sheet from the temperature-responsive culture dish.

【Claim 9】

The method of claim 8, wherein the temperature-responsive polymer is one or more selected from the group consisting of poly(N-isopropylacrylamide), poly(N-

vinylcaprolactame), polycaprolactone (PCL) and polylactate-co-glycolate (PLGA).

【Claim 10】

The method of claim 8, wherein the somatic cells are one or more selected from the group consisting of fibroblasts, chondrocytes, epithelial cells, myoepithelial cells, dermal cells, epithelial keratinocytes, Schwann cells, glial cells, osteoblasts, cardiomyocytes, megakaryocytes, adipocytes, stem cells and cancer cells.

【Claim 11】

The method of claim 8, wherein the viral vector is one or more selected form the group consisting of a recombinant adenovirus, an adeno-associated virus (AAV), a retrovirus, a lentivirus, Herpes simplex virus, vaccinia virus, a reovirus, a poxvirus, Semliki forest virus and Measles virus.

【Claim 12】

The method of claim 8, wherein the viral vector is a recombinant adenovirus.

【Claim 13】

The method of claim 12, wherein the recombinant adenovirus is a replication-incompetent adenovirus or oncolytic adenovirus.

【Claim 14】

The method of claim 8, wherein the cancer cells are irradiated.

【Claim 15】

The method of claim 8, wherein the viral vector is inoculated at a viral dose of 0.1 to 500 multiplicity of infection (MOI).

【Claim 16】

A gene therapeutic agent comprising the cell sheet according to claim 1.

【Claim 17】

The gene therapeutic agent of claim 16, which is for prevention or treatment of cancer.

【Claim 18】

The gene therapeutic agent of claim 16, which is for prevention of cancer recurrence or metastasis.

【Claim 19】

The gene therapeutic agent of claim 17 or 18, wherein the cancer is one or more selected from the group consisting of multifocal hepatocellular carcinogenesis, glioma, glioblastoma, laryngeal cancer, pancreatic cancer, lung cancer, non-small cell lung cancer, colon cancer, bone cancer, skin cancer, head and neck cancer, ovarian cancer, uterine cancer, rectal cancer, gastric cancer, anal cancer, colorectal cancer, breast cancer, fallopian cancer, endometrial cancer, cervical cancer, vaginal cancer, vulva cancer, Hodgkin's disease, esophageal cancer, small intestine cancer, endocrine gland tumors, thyroid cancer, parathyroid carcinoma, adrenal cancer, soft tissue sarcoma, urethral cancer, penile cancer, prostate cancer, chronic or acute leukemia, lymphocyte lymphoma, bladder cancer, kidney or urinary tract cancer, renal cell carcinoma, renal pelvic carcinoma, central nervous system (CNS) tumors, primary CNS lymphoma, spinal tumors, liver cancer, bronchial cancer, nasopharyngeal cancer, brainstem glioma and pituitary adenoma.