Claims

1. A method for preparing F cells comprising: 1) introducing a gene encoding cytosine deaminase (CD) into a mesenchymal stem cell (MSC) to prepare mesenchymal stem cell/cytosine deaminase (MSC/CD); 2) freezing the prepared MSC/CD to prepare frozen MSC/CD; and 3) thawing and suspending the frozen MSC/CD to prepare F cells, wherein the F cell(s) is not subjected to cell culturing after freezing and thawing.

2. The method according to claim 1, wherein the F cell(s) is used for cancer treatment.

3. The method according to claim 2, wherein the cancer is at least one selected from the group consisting of squamous cell cancer, small cell lung cancer, non-small cell lung cancer, lung cancer, peritoneal cancer, colorectal cancer, biliary tumor, nasopharyngeal cancer, laryngeal cancer, bronchial cancer, oral cancer, osteosarcoma, gallbladder cancer, kidney cancer, leukemia, bladder cancer, melanoma, brain cancer, glioma, brain tumor, skin cancer, pancreatic cancer, breast cancer, liver cancer, bone cancer, esophageal cancer, colon cancer, gastric cancer, cervical cancer, prostate cancer, ovarian cancer, head and neck cancer, and rectal cancer.

4. The method according to claim 1, wherein the F cell(s) is an adjuvant for anti-cancer.

5. Use of F cells prepared according to claim 1 in the manufacture of a medicament for preventing or treating cancer comprising: 1) introducing a gene encoding cytosine deaminase (CD) into a mesenchymal stem cell (MSC) to prepare mesenchymal stem cell/cytosine deaminase (MSC/CD); 2) freezing the prepared MSC/CD to prepare frozen MSC/CD; 3) thawing and suspending the frozen MSC/CD to prepare F cells, wherein the F cell(s) is not subjected to cell culturing after freezing and thawing.

6. The use according to claim 5, further comprising use of an anti-cancer agent in the manufacture of the composition.

7. The use according to claim 6, wherein the anti-cancer agent is at least one selected from the group consisting of nitrogen mustard, imatinib, oxaliplatin, rituximab, elotinib, trastuzumab, gefitinib, bortezomib, sunitinib, carboplatin, sorafenib, bevacizumab, cetuximab, viscum album, asparaginase, tretinoin, hydroxycarbamide, dasatinib, estramustine, gemtuzumab ozogamicin, ibritumomab tiuxetan, heptaplatin, methylaminolevulinic acid, amsacrine, alemtuzumab, procarbazine, alprostadil, holmium nitrate chitosan, gemcitabine, doxifluridine, pemetrexed, tegafur, capecitabine, gimeracil, oteracil, azacytidine, cytarabine,

fludarabine, enocitabine, decitabine, mercaptopurine, thioguanine, cladribine, carmofur, raltitrexed, docetaxel, paclitaxel, belotecan, topotecan, vinorelbine, etoposide, vincristine, vinblastine, tenifocide, idarubicin, epirubicin, mitoxantrone, mitomycin, bleomycin, daunorubicin, dactinomycin, pirarubicin, aclarubicin, pepromycin, temozolomide, busulfan, ifosfamide, cyclophosphamide, melphalan, altretamine, dacarbazine, thiotepa, nimustine, chlorambucil, mitolactol, taxotere, gleevec, taxol, herceptin, tarceva, avastin, zoladex, adriamycin, irinotecan, 10058-F4, cisplatin, cyclophosphamid, nitrosourea-based anti-cancer agent, methotrexate, carmustine (BCNU), lomustine (CCNU), and doxorubicin.

8. The use according to claim 5, wherein the cancer is at least one selected from the group consisting of squamous cell cancer, small cell lung cancer, non-small cell lung cancer, lung cancer, peritoneal cancer, colorectal cancer, biliary tumor, nasopharyngeal cancer, laryngeal cancer, bronchial cancer, oral cancer, osteosarcoma, gallbladder cancer, kidney cancer, leukemia, bladder cancer, melanoma, brain cancer, glioma, brain tumor, skin cancer, pancreatic cancer, breast cancer, liver cancer, bone cancer, esophageal cancer, colon cancer, gastric cancer, cervical cancer, prostate cancer, ovarian cancer, head and neck cancer, and rectal cancer.