What is claimed is:

[Claim 1]

A prophylactic or therapeutic agent for giant cell tumors occurring in a bone and soft tissue or for chondrosarcoma, which comprises a non-steroidal anti-inflammatory agent or a thiazolidine derivative as an active ingredient.

[Claim 2]

The prophylactic or therapeutic agent according to claim 1, wherein the non-steroidal anti-inflammatory agent is selected from the group consisting of zaltoprofen, diclofenac, indomethacin, oxaprozin, acetaminophen, and ketoprofen.

[Claim 3]

The prophylactic or therapeutic agent according to claim 1, wherein the thiazolidine derivative is selected from the group consisting of troglitazone, rosiglitazone, pioglitazone, baraglitazone, and rivoglitazone.

[Claim 4]

The prophylactic or therapeutic agent according to any one of claims 1 to 3, wherein the giant cell tumor occurring in a bone and soft tissue is selected from the group consisting of osteoclastoma, giant cell tumor of tendon sheath, and pigmented villonodular synovitis.

[Claim 5]

A method of screening a prophylactic or therapeutic agent for giant cell tumors occurring in a bone and soft tissue or for chondrosarcoma, which comprises the following steps:

(1) the step of culturing a cell derived from giant cell tumors occurring in a bone and soft tissue or chondrosarcoma under conditions of presence and absence of a test substance,

(2) the step of measuring expression of PPARγ gene, and also measuring

(i) expression of an apoptosis-related gene, or

(ii) expression of a fat cell differentiation-related gene under both the conditions, and

(3) the step of selecting a test substance that significantly changes expression of the PPARγ gene, and also significantly changes

(i) expression of an apoptosis-related gene, or

(ii) expression of a fat cell differentiation-related gene, compared with those observed

under the condition of absence of the test substance.

[Claim 6]

The screening method according to claim 5, wherein the giant cell tumor occurring in a bone and soft tissue is selected from the group consisting of osteoclastoma, giant cell tumor of tendon sheath, and pigmented villonodular synovitis.

[Claim 7]

A method for prophylactic or therapeutic treatment of giant cell tumors occurring in a bone and soft tissue or treatment of chondrosarcoma, which comprises administering an effective amount of a non-steroidal anti-inflammatory agent or a thiazolidine derivative to a subject.

[Claim 8]

The method for prophylactic or therapeutic treatment according to claim 7, wherein the non-steroidal anti-inflammatory agent is selected from the group consisting of zaltoprofen, diclofenac, indomethacin, oxaprozin, acetaminophen, and ketoprofen.

[Claim 9]

The method for prophylactic or therapeutic treatment according to claim 7, wherein the thiazolidine derivative is selected from the group consisting of troglitazone, rosiglitazone, pioglitazone, baraglitazone, and rivoglitazone.

[Claim 10]

The method for prophylactic or therapeutic treatment according to any one of claims 7 to 9, wherein the giant cell tumor occurring in a bone and soft tissue is selected from the group consisting of osteoclastoma, giant cell tumor of tendon sheath, and pigmented villonodular synovitis.

[Claim 11]

A non-steroidal anti-inflammatory agent or a thiazolidine derivative for use in prophylactic or therapeutic treatment of giant cell tumors occurring in a bone and soft tissue or treatment of chondrosarcoma.

[Claim 12]

The non-steroidal anti-inflammatory agent or thiazolidine derivative according to claim 11, wherein the non-steroidal anti-inflammatory agent is selected from the group consisting of zaltoprofen, diclofenac, indomethacin, oxaprozin, acetaminophen, and ketoprofen.

[Claim 13]

The non-steroidal anti-inflammatory agent or thiazolidine derivative according to claim 11, wherein the thiazolidine derivative is selected from the group consisting of troglitazone, rosiglitazone, pioglitazone, baraglitazone, and rivoglitazone.

[Claim 14]

The non-steroidal anti-inflammatory agent or thiazolidine derivative according to any one of claims 11 to 13, wherein the giant cell tumor occurring in a bone and soft tissue is selected from the group consisting of osteoclastoma, giant cell tumor of tendon sheath, and pigmented villonodular synovitis.

What is claimed is

1. Use of a non-steroidal anti-inflammatory agent selecting from the group consisting of zaltoprofen, indomethacin, oxaprozin, acetaminophen, and ketoprofen for the manufacture of a pharmaceutical composition for prevention or treatment of giant cell tumors occurring in a bone and soft tissue or chondrosarcoma.

2. The use according to claim 1, wherein the non-steroidal anti-inflammatory agent is zaltoprofen.

3. The use according to claims 1 or 2, wherein the zaltoprofen is formulated for administration in an amount of 240 mg per day.

4. The use according to any one of claims 1 to 3, wherein the zaltoprofen is formulated for administration daily for at least 28 consecutive days.

5. The use according to any one of claims 1 to 4, wherein the zaltoprofen is formulated for administration as a single active pharmaceutical ingredient.

6. Use of a thiazolidine derivative selecting from the group consisting of troglitazone, rosiglitazone, pioglitazone, baraglitazone, and rivoglitazone for the manufacture of a pharmaceutical composition for prevention or treatment of giant cell tumors occurring in a bone and soft tissue.

7. The use according to any one of claims 1 to 6, wherein the giant cell tumors occurring in a bone and soft tissue is selected from the group consisting of osteoclastoma, giant cell tumor of tendon sheath, and pigmented villonodular synovitis.

8. Use of a zaltoprofen for the manufacture of a pharmaceutical composition for decreasing tumor size of giant cell tumors occurring in a bone and soft tissue or chondrosarcoma.

9. The use according to claim 8, wherein the zaltoprofen is formulated for administration in an amount of 240 mg per day.

10. The use according to any one of claims 8 or 9, wherein the zaltoprofen is formulated for administration daily for at least 28 consecutive days.

11. The use according to any one of claims 8 to 10, wherein the zaltoprofen is formulated for administration as a single active pharmaceutical ingredient.

12. Use of a troglitazone for the manufacture of a pharmaceutical composition for decreasing tumor size of

giant cell tumors occurring in a bone and soft tissue.

13. The use according to any one of claims 8 to 12, wherein the giant cell tumors occurring in a bone and soft tissue is selected from the group consisting of osteoclastoma, giant cell tumor of tendon sheath, and pigmented villonodular synovitis.

14. Use of a zaltoprofen for the manufacture of a pharmaceutical composition for suppressing proliferation of giant cell tumors occurring in a bone and soft tissue or chondrosarcoma.

15. The use according to claim 14, wherein the zaltoprofen is formulated for administration in an amount of 240 mg per day.

16. The use according to any one of claims 14 or 15, wherein the zaltoprofen is formulated for administration daily for at least 28 consecutive days.

17. The use according to any one of claims 14 to 16, wherein the zaltoprofen is formulated for administration as a single active pharmaceutical ingredient.

18. Use of a thiazolidine derivative of PPARγ-agonist selecting from the group consisting of troglitazone and pioglitazone for the manufacture of a pharmaceutical composition for suppressing proliferation of giant cell tumors occurring in a bone and soft tissue.

19. The use according to any one of claims 14 to 18, wherein the giant cell tumors occurring in a bone and soft tissue is selected from the group consisting of osteoclastoma, giant cell tumor of tendon sheath, and pigmented villonodular synovitis.