CLAIMS

1. Method for promoting anti-inflammatory properties and for improving the repair ability of a tissue containing mesenchymal stem cells (MSCs) characterized in that it comprises at least one step of mechanical activation performed by applying a orbital shaking force on a adipose tissue lipoaspirated or removed from the body, characterized in that the applied force has an intensity ranging from 40 to 120 x g, characterized in that said force is applied for a time ranging from 3 to 20 minutes.

2. Method according to claim 1 characterized in that the applied force has an intensity equal to 97 x g.

3. Method according to one or more of the preceding claims, characterized in that said force is applied for 10 minutes.

4. Method according to one or more of the preceding claims, characterized in that said mechanical activation step applying an orbital shaking force is repeated two or more times with an equal or different force intensity for each step and/or with an equal or different force application duration for each step.

5. Method according to one or more of the preceding claims, characterized in that said lipoaspirated adipose tissue is cryopreserved.

6. Method according to one or more of the preceding claims, characterized in that it provides a step isolating and expanding the mesenchymal stem cells contained in said adipose tissue lipoaspirated or removed from the body (ADSCs).

7. Method according to one or more of the preceding claims, characterized in that the step isolating and expanding the mesenchymal stem cells contained in said adipose tissue lipoaspirated or removed from the body (ADSCs) comprises:

- inoculation of 2 ml of mechanically activated adipose tissue in 25 cm2 flask completely filled with culture medium "Dulbecco's modified Eagle's Medium" (DMEM) supplemented with 20% fetal bovine serum;
- incubation at 37°C in 5% CO2;
- turning upside-down the flask such that cells float up and adhere to the top inner ceiling surface of the flask;
- removing the culture medium and tissue after 15 days and turning upside-down the flask so that the cells are on the bottom;
- replacing the culture medium every 4 days until reaching cell confluence of 90-95%.