

## CONCLUSION

Adipose tissue rich in stem cells can meet the need of cell transplantation and tissue engineering. Adipose tissue is easily obtained in large quantities through a simple liposuction. We developed our lab protocol (*protocol IIa, methods, page 19*) to isolate MSCs from adipose tissue. We were able to isolate and propagate fibroblast-like adherent cells from adipose tissue using this protocol.

Using flow cytometry ; the cells of initial SVF pellet **didn't** express CD90, CD73, CD105, CD49d, CD34, CD45, CD14, CD19, CD3 and HLA-DR. On the 7<sup>th</sup> day of initial culture, our isolated fibroblast-like adherent cells were **positive** for CD34,CD90,CD73,CD105 and CD49d and **negative** for CD45, CD14, CD19, CD3 and HLA-DR. Same results was obtained on day 14,21,28.

We also found that MSCs isolated and cultured from lipoaspirate showed better proliferation rate than those from adipose tissue obtained from abdominoplasty and breast reduction.

By observing the behavior of isolated adherent fibroblast-like cell ; **proliferation** of cells was found to increase from **day 0** to reach maximum by **day 14** and then starts to decrease and becomes plateau as the cells senesce and die.

Concerning **CD expression** of isolated cells, we found that CD34, CD90, CD73, CD105 and CD49d were expressed by cells starting from **day 7** till **day 28** and mean percentage (%) of gated cells out of control **positive** for these CDs was **nearly the same** at all days except for **CD 105** whose mean percentage (%) of gated positive cells out of control started to decrease by **day 21**.

***Therefore, we believe the optimum time for using AT-MSCs in clinical applications to get the maximum benefit out of them is between day 10 and day 18.***