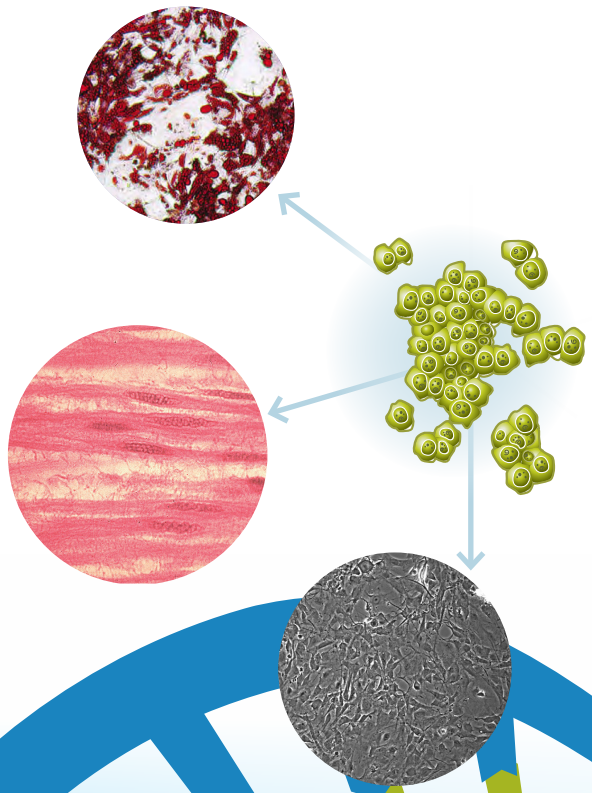
SF1 hMSC Medium



SF1 hMSC Medium is a serum free and animal-component free cell culture medium. This medium is designed for the growth and expansion of human mesenchymal stem cells (MSCs) derived from bone marrow, adipose or Wharton's Jelly. Using SF1 hMSC Medium, human MSCs can be expanded quickly for multiple passages while maintaining their ability to differentiate into osteogenic, chondrogenic and adipogenic lineages.

Plate-coating is not necessary for the SF1 hMSC Medium, which means that the user can use tissue culture vessels directly and save labor and cost related to coating plate.

This medium already contains L-glutamine and is ready to use.

Safe serum-free, animal-origin free

Save time pre-coating cell cultureware is not necessary

High Performance low seeding density ($5x10^2$ cells/cm^2) high multiplication rate

Convenient SF1 hMSC medium + 10% DMSO = cell cryopreservation medium

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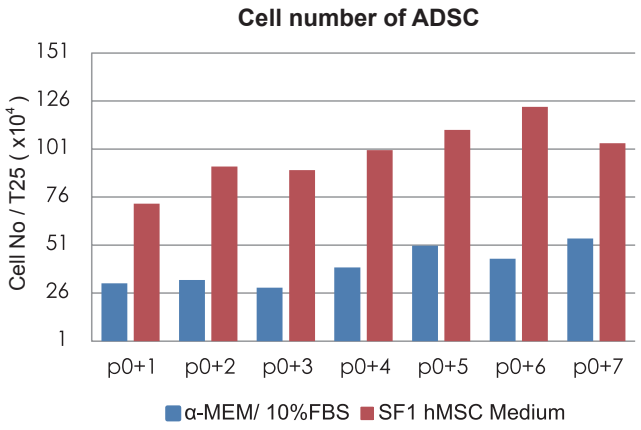
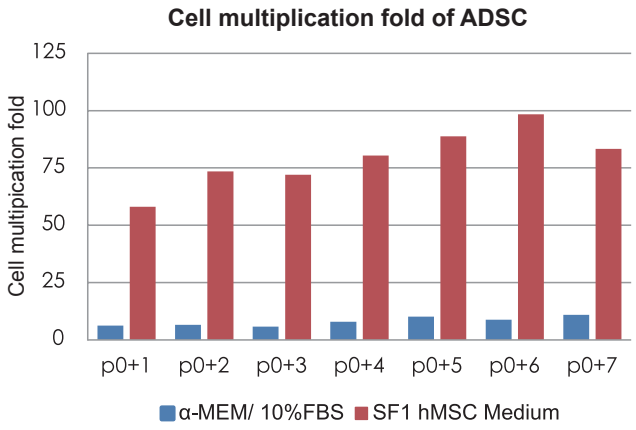
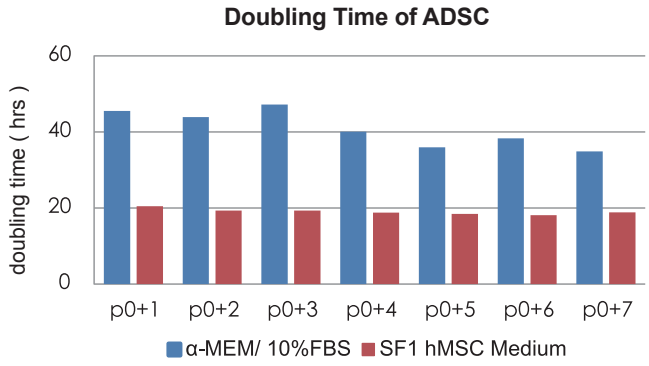
The Performance of SF1 hMSC Medium

Cell Growth







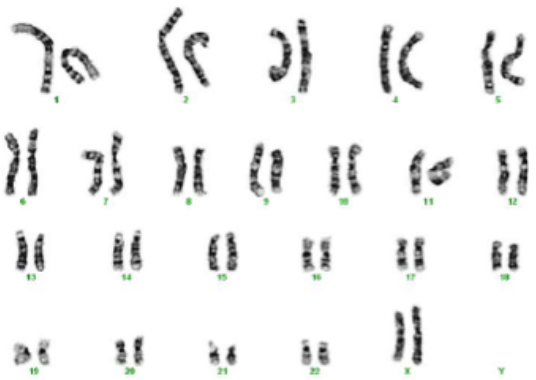
Culture human adipose-derived stem cells (ADSC) using a-MEM + 10% FBS (SCM) / SF1 hMSC medium. Seeding human ADSC $2x10^3$ cells / cm^2 in a-MEM + 10% FBS, and $5x10^2$ cells / cm^2 in SF1 hMSC medium respectively in T-25 flask. Cells were fed on 3^{th} day and subcultured on 5^{th} day. Human ADSC cultured in SF1 hMCS Medium expand faster than cells cultured in a traditional serum-base medium (a-MEM + 10% FBS).

Cell Surface Marker

Cell Surface Marker	Negative	Positive
CD34	0.11%	
CD45	0.30%	
CD73		99.61%
CD90		99.96%
CD105		96.82%

Cell surface antigen expression of human adipose-derived stem cells (P1+6) grown in SF1 hMSC Medium.

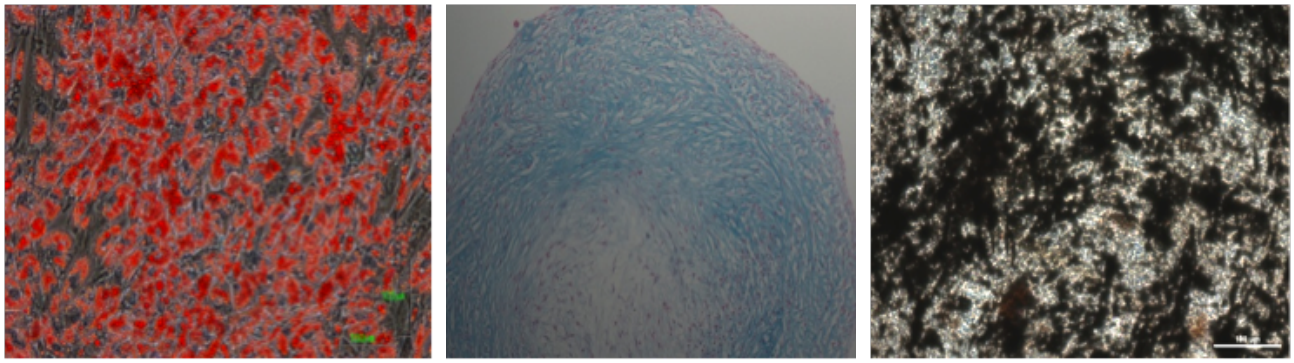
Karyotype Analysis



Human adipose-derived stem cells grown in SF1 hMSC Medium after 7 passages did normal karyotyping.

Differentiation Potential Assay

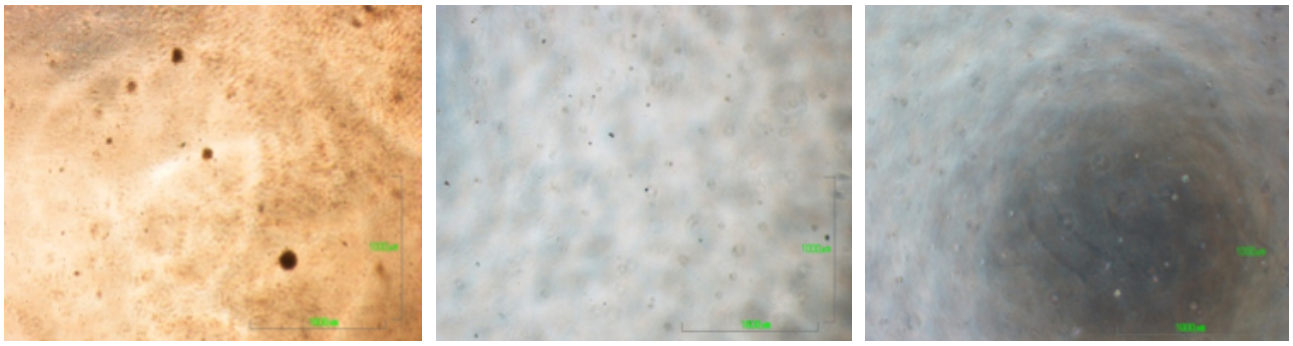
(A) Oil Red O staining	(B) Alcian blue staining	(C) Von Kossa's staining



Differentiation potential of SF1 hMSC Medium expanded human adipose-derived stem cells (P0+7). (A) Oil Red O staining of differentiation culture for adipogenesis (B) Alcian blue staining of differentiation culture for chondrogensis (C) Von Kossa's staining of differentiation culture for osteogenesis.

Anchorage Independent Soft Agar Colony Formation Assay

(A) Hep3B	(B) ADSC cultured with SCM	(C) ADSC cultured with SF1 hMSC medium



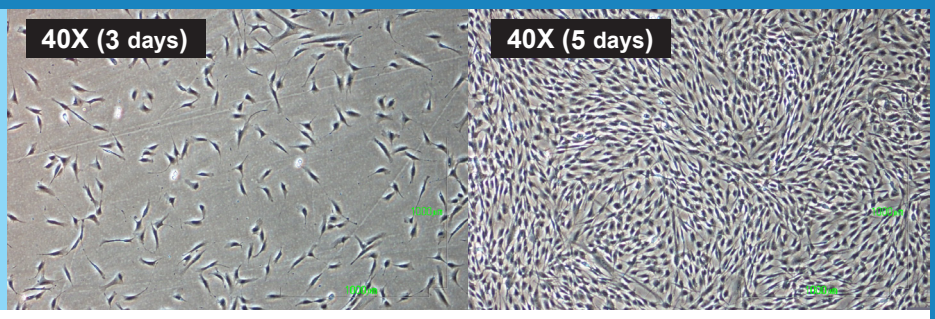
Both SCM and SF1 hMSC Medium expanded adipose tissue MSCs showed no tumorigenic potential in vitro as indicated by anchorage independent soft agar colony formation assay. Colony formation was observed in Hep3B as a positive control. Cells ($5x10^3$) were seeded in 24-well plates and the average numbers of colonies from five independent fields were determined on day24. Hep3B(A) shows 10 colonies, ADSC cultured with MSCs SCM (B, P11) and ADSC cultured with SF1 hMSC Medium (C, P1+10).

ORDERING INFORMATION

Cat. No.	Product	Size
MSC-SF-003	hMSC SF1 Medium (including Cat# MSC-SF-004 Basal Medium 450 ml + Cat# MSC-SF-005 Supplement 50 ml)	500 mL
MSC-SF-006	hMSC SF1 Phenol Red Free Medium (including Cat# MSC-SF-007 Phenol Red Free Basal Medium 450 ml + Cat# MSC-SF-008 Phenol Red Free Supplement 50 ml)	500 mL

Data from customer

Seeding 5x10²/cm² ADSC using SF1 hMSC medium after 3 days and 5 days culture. Observe cells using an inverted phase microscope.



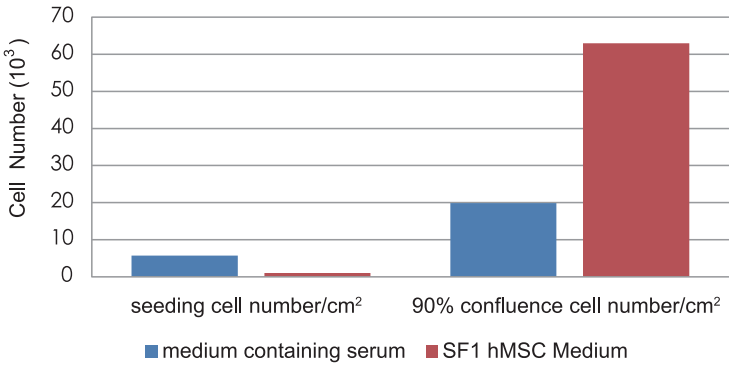
Cell : Thaw the frozen human Adipose-Derived Stem Cells (ADSC), which storage in culture medium containing serum

Seeding 5.7 x 10^3/cm^2 cells in culture medium containing serum, T25 flask

Seeding 1.0 x 10^3/cm^2 cells in SF1 hMSC medium, T25 flask

Cells were fed on 3th day and subcultured on 5th day

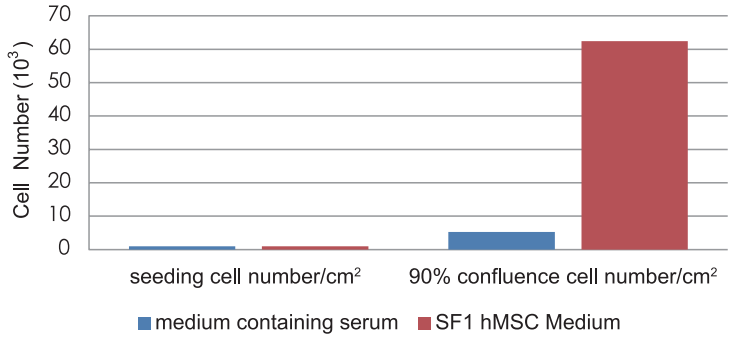
Cell number of ADSC after 5 days culture



◆ **The increment fold of cell number :**
Medium containing serum : 3.47 fold
SF1 hMSC Medium：63 fold

◆ Cell viability :
Medium containing serum : 97.50%
SF1 hMSC Medium : 96.90%

Cell number of ADSC after passage and culture 5 days



◆ **The increment fold of cell number :**
Medium containing serum : 5.24 fold
SF1 hMSC Medium：62.4 fold

◆ **Cell viability :**
SF1 hMSC Medium : 96.1%

The comparison of cell number increment :

	medium containing serum	SF1 hMSC Medium
cell seeding density	5.7x10^3/cm^2	1x10^3/cm^2
cell number in 90% confluence	1.98x10^4/cm^2	6.3x10^4/cm^2
the increment of cell number	3.47X	63X

18X different

	medium containing serum	SF1 hMSC Medium
sub-culture cell seeding density	1x10^3/cm^2	1x10^3/cm^2
cell number in 90% confluence	5.24x10^3/cm^2	6.24x10^4/cm^2
the increment of cell number after sub-culture	5.24X	62.4X
the total increment of cell number for two generation	18.18X	3,931X

216X different

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