



**Human Mesenchymal Stem Cell Adipogenesis Detection Kit
(HMSC-A PCR)**

Cat. No. 8298, 50 reactions

Product Description

Human mesenchymal stem cells (MSC) are a population of multipotent cells that can be differentiated into multiple lineage-specific cells, which can form bone, fat, cartilage, muscle and tendon. The process of adipogenesis that forms fat plays a role in obesity, cardiovascular diseases and metabolic disorders. Sciencell has created a convenient multiplex PCR kit for the routine detection of human mesenchymal stem cell adipogenesis. Multiplex PCR allows two or more primers to be amplified in a single PCR reaction by using multiple primer pairs in a single reaction mixture, allowing for considerable saving in labor, cost and precious DNA samples. All required PCR reagents are supplied in this kit. Simply add DNA template and perform PCR reaction. Tube 1 ready-mix reaction contains *PPAR γ* and *FABP4* primers that allow for the detection of mid- and late-stage of human MSC adipogenesis, respective [1].

Kit Components

Cat. No.	# of vials	Name	Quantity	Storage
8298a	1	Tube 1: differentiation ready-mix	660 μ L	-20°C
8298b	1	Nuclease-free H ₂ O	1 mL	-20°C

Materials to be Supplied by the User

DNA templates
Thin wall PCR tubes
Thermal cycler
Agarose gel
Ethidium bromide
Electrophoresis system
Gel imager

Quality Control

cDNAs from differentiated human mesenchymal stem cells during the time-course of adipogenesis were used as template DNA. Each PCR product was sequenced to ensure specificity.

Product Use

HMSC-A PCR kit is for research use only. Not for use in animals, humans, or diagnostic procedures.

Storage

Store at -20°C upon receipt. Avoid repeated freeze thaw cycles by making six aliquots at 110 μ L each.

Shipping

Dry ice.

References

[1] Menssen, A. et al. (2011). Differential gene expression profiling of human bone marrow-derived mesenchymal stem cells during adipogenic development. *BMC Genomics*. 12: 461-477.

Procedures

1. Mix the following components in a thin-wall PCR tube:

Component	Amount
Tube 1 ready-mix	12 μ L
cDNA template*	2 μ g
Nuclease-free H ₂ O	up to 20 μ L

*cDNA concentration should be \sim 2 μ g/ μ L

2. Perform PCR using the following conditions:

Step 1: 95°C 3 min

Step 2: 95°C 30 sec

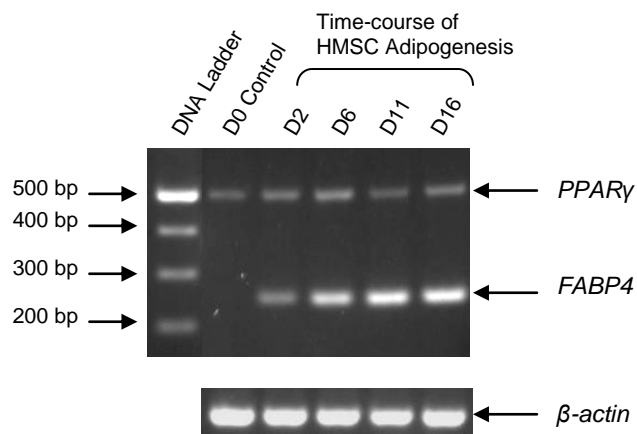
Step 3: 58°C 30 sec

Step 4: 72°C 1 min

Step 5: Repeat Steps 2-4 for 24 times

Step 6: 72°C 10 min

3. Visualize PCR products on a 1.5% agarose gel containing ethidium bromide.



4. Expected product sizes:

Gene	Expected Size
<i>PPARγ</i>	505bp
<i>FABP4</i>	251bp