

Certificate of Analysis

**Strain C57BL/6 Mouse Mesenchymal Stem Cells
With GFP**

Catalog No. MUBMX-01101
Lot Number: 130426L01

Cryopreservation Date: 2013-04-26

Passage Number: 9

Viability

Cells are assayed for viability post-thaw using vital staining assay with trypan blue.

Specification: Cells should exhibit $\geq 80\%$ viability.

Sterility

Bacterial and Fungal Contamination: Samples are inoculated and cultured in blood agar plate, thioglycolate broth, tryptocase soy broth and sabouraud dextrose agar.

Specification: No growth must be observed.

Mycoplasma: Samples are tested for mycoplasma contamination using a PCR-based assay and direct culture.

Specification: Results must be negative.

Endotoxin: Samples are tested for endotoxin contamination with LAL test.

Specification: Results must show $\leq 25\text{EU/ml}$.

Purity

Cells are assayed for purity using flow cytometric analysis of cell surface antigen expression after cryopreservation. Cells are immunofluorescently stained with fluorochrome-conjugated antibodies specific to cell surface antigens CD44 CD31 and CD117.

Specification: Cells must show $\geq 70\%$ positivity for expression of cell surface antigens CD44. Cells must show $\leq 5\%$ positivity for expression of cell surface antigens CD31 and CD117.

Proliferation Ability

Cells are characterized by their ability to proliferate in culture with an attached well-spread morphology for ≥ 5 passages, and $\leq 5\%$ cells exhibit spontaneous differentiation in each passage.

GFP Expression

Expression of constitutive GFP is assayed by visual inspection of GFP fluorescence signal.

Specification: $\geq 80\%$ of the cells express GFP at high levels after 5 passages when cultured at normal proliferation conditions.

Differentiation Ability

Cells are assayed after cryopreservation for their ability of tri-lineage differentiation. Cells must be able to differentiate to osteocytes, adipocytes and chondrocytes when cultured in the appropriate differentiation media.

Results:

All specifications have been met.



Jane Chen
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Jun 25, 2013