

# Certificate of Analysis

**Fischer 344 (F344) Rat Mesenchymal Stem Cells  
With GFP**

Catalog No. RAFMX-01101  
Lot Number: 121211L01

Cryopreservation Date: 2012-12-11  
Passage Number: 5

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## 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 CD29 CD34, CD44, CD45 and CD11b/c.  
Specification: Cells must show  $\geq 70\%$  positivity for expression of cell surface antigens CD29 and CD44.  
Cells must show  $\leq 5\%$  positivity for expression of cell surface antigens CD34, CD45 and CD11b/c.

## Proliferation Ability

Cells are characterized by their ability to proliferate in culture with an attached well-spread morphology for  $\geq 5$  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: The results must indicate  $\geq 80\%$  of cells are visually inspected for GFP fluorescence signal during extensive subcultivation.

**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.

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