Certificate of Analysis

Strain C57BL/6 Mouse Embryonic Stem Cells with GFP
Catalog No. MUBES-01101
Lot Number: 120416J01
Cryopreservation Date: 2012-4-16
Passage Number: 23

Viability
Cells are assayed for viability post-thaw using vital staining assay with trypan blue.
Specification: Cells should exhibit ≥ 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 a concentration of ≤ 25EU/ml.

Karyotype
Cells are analyzed for karyotype by performing ≥ 20 metaphase spreads.
Specification: Results must be indicated that the cells possess 40 chromosomes (20 diploid pairs) plus 2 sex chromosomes (X, Y). The profile must match the published profile of Strain C57BL/6 mouse with no gross abnormalities.

GFP Expression
Expression of constitutive GFP is assayed by visual inspection of GFP fluorescence signal.
Specification: ≥90% of the cells in each colony express GFP at high levels after 5 passages when cultured at normal proliferation conditions.

Verification of Undifferentiated State
Cells are analyzed for expression of cell-specific markers after cryopreservation. Cells are immunostained with fluorochrome-conjugated antibodies specific to OCT-4, SSEA-1, Nanog, SSEA-3 and SSEA-4.
Specification: Cells must be shown to remain undifferentiated when cultured on mouse embryonic feeder cells after cryopreservation. Results must indicate that ≥ 90% of colonies in a plate and ≥ 90% of

cells in each colony are positive for OCT-4, SSEA-1 and Nanog, while ≤5% of colonies in a plate and ≤5% of cells in each colony are positive for SSEA-3 and SSEA-4.

Differentiation Potential

Cells are assayed after cryopreservation for their ability to differentiate into embryoid bodies and express cell-specific markers indicative of the three germ layers.

Specification: Results must indicate positive expression of β3-tubulin or nestin (ectoderm-specific markers), smooth muscle actin (mesoderm-specific marker), and AFP (endoderm-specific marker).

Results:

All specifications have been met.

Jane Chen

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