Signosis
Innovative Plate Assay Solutions

Mouse and Rat iPSC Multiplex PCR Screening Kit

Catalog Number MG-0006 **(For Research Use Only)**

Introduction

Induced pluripotent stem cells (iPSCs) are somatic cells that have been genetically reprogrammed to a pluripotent state by the enforced expression of transcription factor genes. Development of iPSCs requires examination of clones expressing these pluripotency gene markers, including OCT4, SOX2, KLF4, C-Myc or Nanog. The most challenge part is to distinguish fully reprogrammed clones from partially reprogrammed or simply transformed colonies because of inherently low efficiency of iPSC derivation. Signosis developed the mouse and rat iPSC multiple PCR screening kit, which can simultaneously amplify 5 mouse and rat iPSC markers (OCT4, SOX2, KLF4, Myc, and Nanog) along with control primer GAPDH in one PCR reaction to facilitate iPSC screening. The all-in-one kit provides all of components required for effectively identifying iPSC clones.

Principle

Multiple targets are amplified simultaneously with different primers in one PCR reaction. The resulted products with differential sizes are easily distinguished with regular agarose gel electrophoresis. The parameters of PCR including the primer concentration and the reaction buffer are optimized in order to provide the highest specificity and sensitivity of amplification of multiple targets in one reaction.

Materials provided

- Control cDNA mix
- Mouse and rat iPCS PCR primer mix for OCT4, SOX2, KLF4, Myc, and Nanog, along with control primer GAPDH
- PCR buffer mix

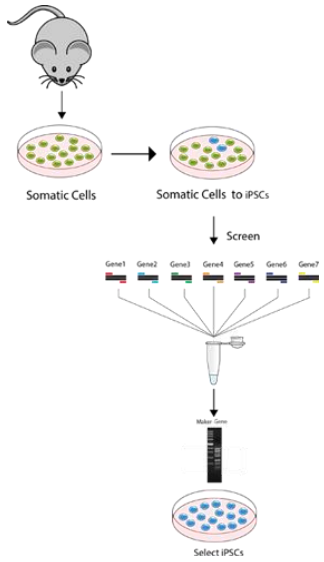

Diagram of Mouse and Rat iPSCs Multiplex

Materials required but not provided

- Sample cDNA
- PCR machine
- House Keeping Gene Multiplex PCR Control Kit (MG-0001)

PCR amplification

(1) Prepare PCR reactions
Mix the following component for one reaction:
18.8 ul PCR buffer mix
0.5 ul control cDNA mix or specific cDNA
0.5 ul PCR primer mix
0.2 ul PCR Polymerase
Note: make a master mix by multiplying the volume by the number of your reactions

(2) Proceed PCR cycles:
Heat the reactions at 94 °C for 30 sec, and proceed PCR for 35 cycles as follows:

94 °C	30 seconds
58 °C	30 seconds
72 °C	30 seconds

Note: PCR cycle can be adjusted according to a specific primer designing.

(3) Run PCR products on 1.5% agarose gel electrophoresis.