

METHODS AND COMPOSITIONS FOR TARGETED GENETIC MODIFICATIONS AND METHODS OF USE

ABSTRACT

Methods and compositions are provided for generating targeted genetic modifications on the Y chromosome or a challenging target locus. Compositions include an in vitro culture comprising an XY pluripotent and/or totipotent animal cell (i.e., XY ES cells or XY iPS cells) having a modification that decreases the level and/or activity of an Sry protein; and, culturing these cells in a medium that promotes development of XY F0 fertile females. Such compositions find use in various methods for making a fertile female XY non-human mammal in an F0 generation.

[Figure 1]