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(54) Title: COMPOSITIONS AND METHODS FOR PRODUCING GENETICALLY MODIFIED ANIMALS

(57) Abstract: Methods, compositions and non-human animals and parts thereof are disclosed for improving germ line transmission of genetic modifications. More particular, the present invention discloses methods and compositions for producing non-human embryos with a disrupted or disruptable fertility gene, which can be used as hosts for the development of donor pluripotent cells, including genetically modified donor pluripotent cells, into germ cells and gametes. Also disclosed are methods and compositions for producing from such embryos chimeric non-human animals with a disrupted fertility gene and for breeding the chimeric non-human animals with cognate non-human animals that comprise a fertility gene that lacks a disruption to produce non-human animals having substantially all gametes and/or germ cells derived from the donor pluripotent cells. The present invention also discloses non-human gametes, germ cells, embryos and animals for use in the subject methods.



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