

Title (en)

COMPOSITIONS AND METHODS FOR CHIMERIC EMBRYO-ASSISTED ORGAN PRODUCTION

Title (de)

ZUSAMMENSETZUNGEN UND VERFAHREN ZUR CHIMÄREN EMBRYO-UNTERSTÜTZTEN ORGANPRODUKTION

Title (fr)

COMPOSITIONS ET PROCÉDÉS DE PRODUCTION D'ORGANE ASSISTÉ PAR UN EMBRYON CHIMÈRE

Publication

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Application

EP 16860830 A 20161027

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- US 201562246947 P 20151027
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Abstract (en)

[origin: WO2017075276A2] Human or humanized tissues and organs suitable for transplant are disclosed herein. Gene editing of a host animal provides a niche for complementation of the missing genetic information by donor stem cells. Editing of a host genome to knock out or disrupt genes responsible for the growth and/or differentiation of a target organ and injecting that animal at an embryo stage with donor stem cells to complement the missing genetic information for the growth and development of the organ. The result is a chimeric animal in which the complemented tissue (human/humanized organ) matches the genotype and phenotype of the donor. Such organs may be made in a single generation and the stem cell may be taken or generated from the patient's own body. As disclosed herein, it is possible to do so by simultaneously editing multiple genes in a cell or embryo creating a "niche" for the complemented tissue. Multiple genes can be targeted for editing using targeted nucleases and homology directed repair (HDR) templates in vertebrate cells or embryos.

IPC 8 full level

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