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(54) **COMPOSITIONS AND METHODS FOR GENOMIC INTEGRATION OF NUCLEIC ACIDS INTO EXOGENOUS LANDING PADS**

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(52) **U.S. Cl.**

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(58) **Field of Classification Search**

None

See application file for complete search history.

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(57) **ABSTRACT**

Provided herein are compositions and methods of integrating one or more exogenous donor nucleic acids into one or more exogenous landing pads engineered into a host cell's genome. In certain embodiments, the exogenous landing pads and exogenous donor nucleic acids comprise standardized, compatible homology regions so that exogenous donor nucleic acids can integrate into any of the landing pads, independent of the genomic sequences surrounding the landing pads. In certain embodiments, the methods comprise contacting the host cell comprising landing pads with one or more exogenous donor nucleic acids, and a nuclease capable of causing a double-strand break within the landing pads, and recovering a host cell comprising one or more exogenous donor nucleic acids integrated in any of the landing pads.

17 Claims, 15 Drawing Sheets

Specification includes a Sequence Listing.

FIG. 1A

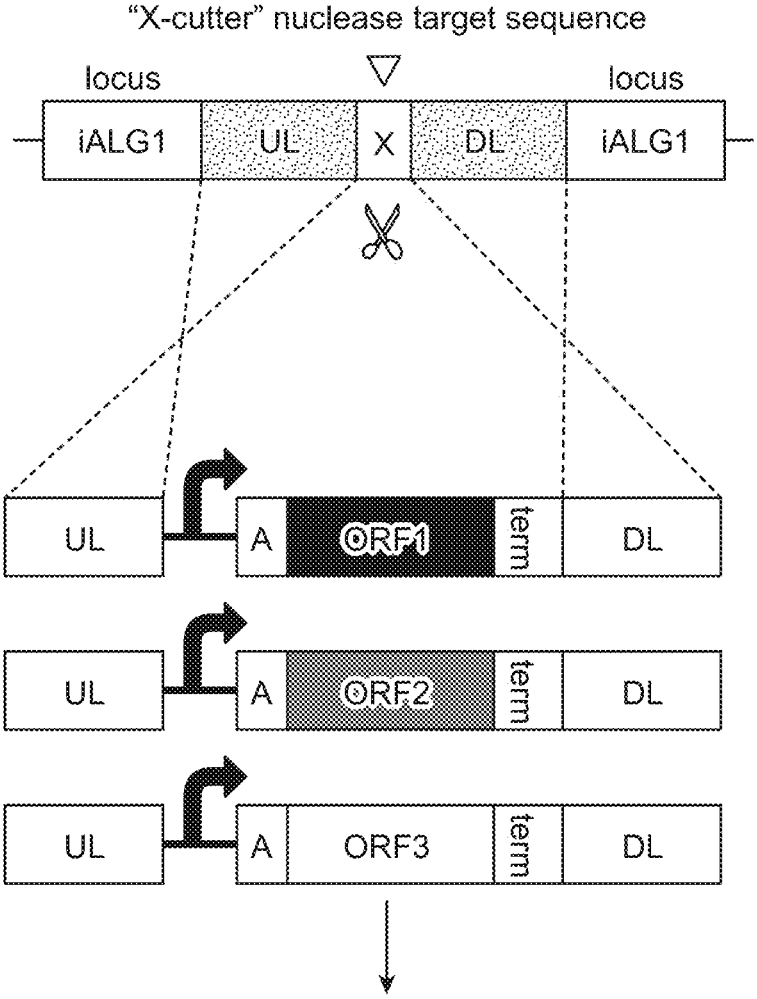

FIG. 1B

FIG. 1C