ABSTRACT

MULTIPLEX RNA-GUIDED GENOME ENGINEERING

Methods of multiplex genome engineering in cells using Cas9 is provided which includes a cycle of steps of introducing into the cell a first foreign nucleic acid encoding one or more RNAs complementary to the target DNA and which guide the enzyme to the target DNA, wherein the one or more RNAs and the enzyme are members of a co-localization complex for the target DNA, and introducing into the cell a second foreign nucleic acid encoding one or more donor nucleic acid sequences, and wherein the cycle is repeated a desired number of times to multiplex DNA engineering in cells.

Figure 1