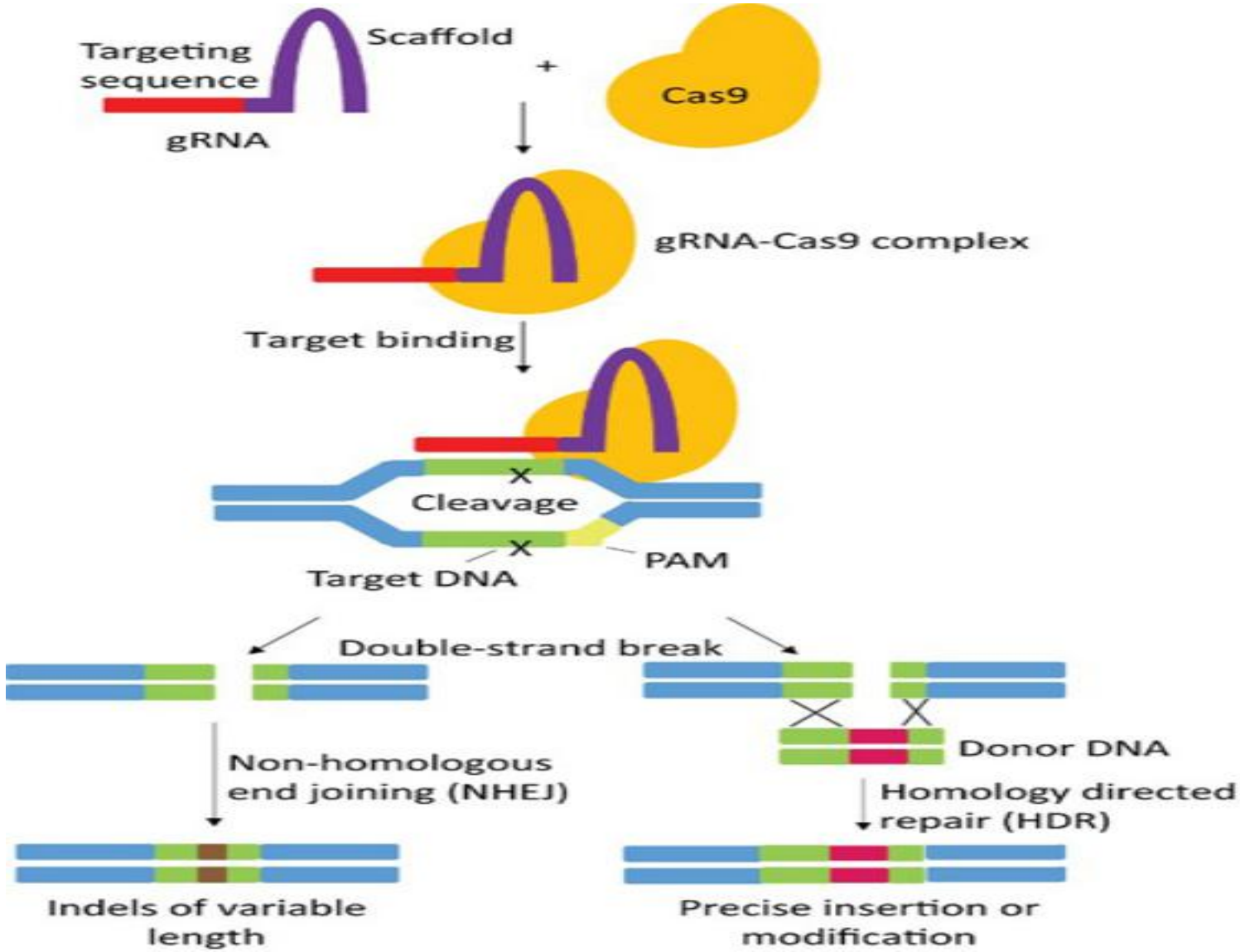

creative biogene

Knockout Cell Line

CRISPR/Cas9 system consists of a “guide” RNA (gRNA) and a bacterial CRISPR-associated endonuclease (Cas9). The gRNA is a short synthetic RNA composed of a Cas9-binding “scaffold” sequence and ~ 20 nucleotide “targeting” sequence that defines the target genomic site to be modified. Cas9 contains two nuclease domains to induce site-specific DNA cleavage. It’s a scalable genome-wide editing technology for its ease of generating gRNAs. The simplicity and high-efficiency of CRISPR/Cas9 system make it a preferable genomic knockout method to the traditional ZFN and TALEN system. Our scientists are experts at performing gene knockout with CRISPR/Cas9, from designing gRNA constructs to transfection and single clone generation of a wide range of cells, including difficult-to-transfect and tumor cell lines.


Targeting sequence
Scaffold
gRNA
+
Cas9
gRNA-Cas9 complex
Target binding
Cleavage
Target DNA
PAM
Double-strand break
Non-homologous end joining (NHEJ)
Indels of variable length
Donor DNA
Homology directed repair (HDR)
Precise insertion or modification

Contact information

Provider: Creative Biogene

URL: https://www.creative-biogene.com/Services/Stable-cell-line-generation/Custom-Genome-Editing-Cell-Lines.html

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