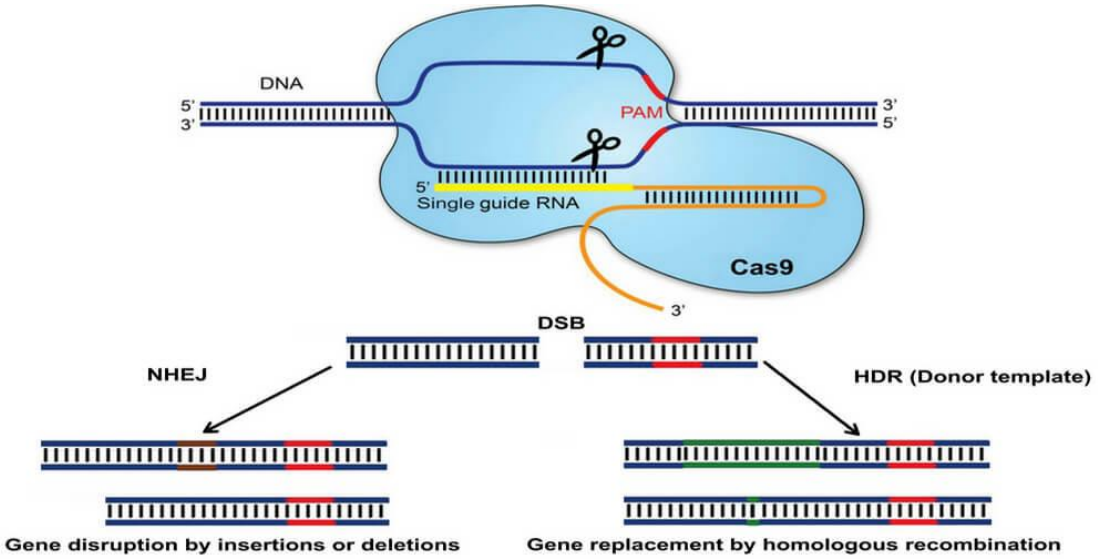
Cas9 Stable Cell Lines



CRISPR/Cas9 system used for genome engineering in molecular biology is composed of two components: sgRNA which is a combine of original trRNA and crRNA, and Cas9 endonuclease. By delivering Cas9 and sgRNA into a cell, Cas9 is targeted to a given locus based on sequence complementary between sgRNA and cell genome, and further induces a double strand break (DSB). In the presence of donor template, the DSB can be repaired by HDR (homology-directed repair) pathway enabling precise editing such as point mutation. When DNA repair template is not provided, the cell is forced to undergo NHEJ (non-homologous end joining) pathway resulting in indels (insertions or deletions). Apart from wild-type Cas9, a few variants have been developed for reducing off-target effects or for other applications. SpCas9-HF1 is a high-fidelity variant designed to reduce non-specific DNA contacts.

Creative Biogene has developed a series of Cas9 expressing stable cell lines. Cas9 encoding gene is stably integrated into either random site, or AAVS1 safe harbor site of human genome, or ROSA26 safe harbor site of mouse genome. Apart from HEK293 and HeLa cells, we have achieved Cas9 stable expression in several types of cancer cells which makes it convenient for scientists to study related gene functions of certain cancers. For consistent, high-level and more stable expression of Cas9, monoclonal cells are isolated. The activity of Cas9 in each constructed stable cell line is functionally validated by the means of T7 Endonuclease I assay.

https://www.creative-biogene.com/products/cas9-stable-cell-lines.html