

BIOL 055: Genome Editing with CRISPR

This workshop will focus on the general principles of genome editing protocols, including design, choice of format, delivery, efficiency, specificity, clonal isolation, genotyping, and validation. The second part of the workshop will address different applications including genome editing in mice, zebrafish, and iPS cells, disease modeling, generation of reporter lines, and high throughput approaches. We will discuss strategies to make CRISPR gene editing more efficient, flexible, and specific. We will explore recent advances in the CRISPR field including base editors and epigenome editing. We will also examine sequencing and quality control considerations for genome editing projects. Hands-on laboratory exercises will accompany the lecture material to provide practical training in design, assembly, transfection, and detection/evaluation steps of a typical genome editing workflow.

Credits: 5

Class Type: Workshop

Program: Biology, Genetics, and Medicine

Availability Summer 2021