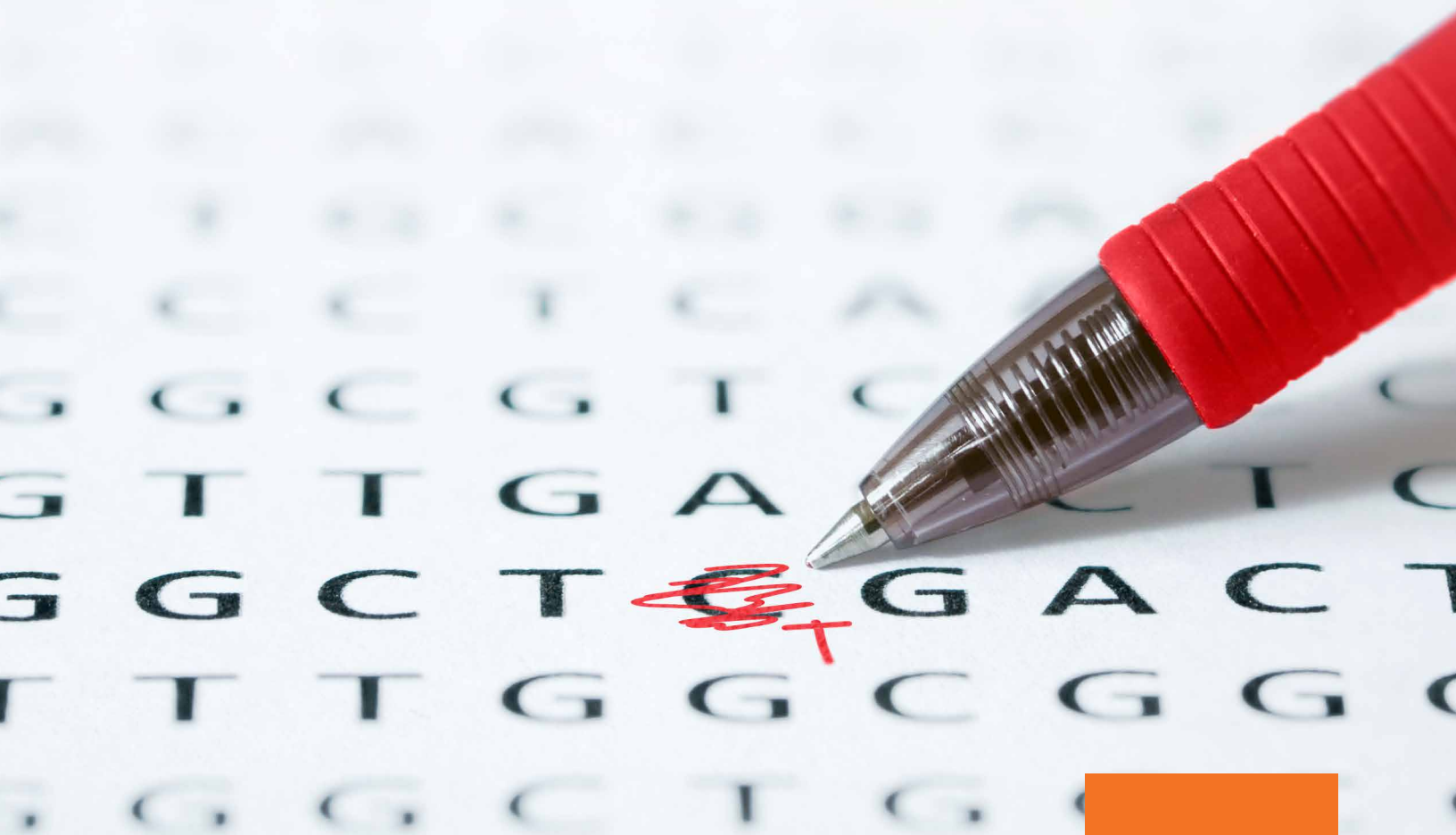
Corning Solutions for CRISPR Gene Editing



CORNING

Genome Engineering via the CRISPR-Cas System

The CRISPR-Cas System is used to genetically engineer cells by inducing alterations in genomic sequence information, as well as activation or repression of target genes. This system is extremely efficient due to the combined action of the Cas enzyme (the part of the system that induces the modification), and the guide RNA (gRNA), which guides the Cas enzyme to the DNA sequence designated for modification.

Our high quality laboratory consumables, biologics, and equipment can help you achieve success in your genomic research. See how Corning products fit into every step of your CRISPR workflow below.

gRNA Generation

The gRNA (~20 nucleotides) is specifically designed to match the DNA sequence of the target gene. The gRNA is inserted into plasmids, which are then transformed into bacteria for DNA production.

PCR WORK

PCR Plates | PCR Tubes | PCR Strips

MICROBIOLOGY

Petri Dishes | Tubes | Loops and Spreaders

Virus production and Delivery of gRNA/Cas9 Complex

The gRNA and Cas enzyme plasmids are transfected into cells, where those components are incorporated into a functioning virus particle containing the gRNA and Cas DNA.

CELL CULTURE

Plates | Dishes | Flasks

ACCESSORIES

Cell Strainers | Cryogenic Vials | Tubes

Alternative Delivery Methods

Apart from lentiviral transfection of the gRNA/Cas complex, alternative approaches are available to achieve gRNA and Cas delivery into cells. These alternative delivery methods include microinjection, electroporation, liposome transfection, and RNA transfection of the gRNA/Cas complex.

LIQUID HANDLING

Pipet Tips | Automation Tips | Tubes

STORAGE

Plates | Tubes | Blocks

Transduction and Expansion

The viral particles are added to the designated cells, which causes integration of the gRNA and Cas DNA into the cellular genome, subsequently leading to the expression of the gRNA/Cas system. Transduced cells are expanded to produce an adequate amount of the modified cell type for further research

TRANSDUCTION


Syringe Filters


Antibiotics


Media

EXPANSION


Multi-Layer Flasks


Microcarriers


Roller Bottles

Cell Selection and Verification

Of the population of transduced cells, cells with the desired genomic modification are chosen based on phenotype, or cells are seeded as single cells for clonal expansion. Validation of the desired genomic modification is then performed, typically via extraction and sequencing of genomic DNA from these cells.

SELECTION


Cool Products


Assay Plates


FACS Tubes

VERIFICATION


Bioscience Kits


Tubes


Pipets

Additional Products


Cool Products


Cell Counter


ECMs


Erlenmeyer Flasks


Gel Doc System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For more specific information on claims, visit the Certificates page at **www.corning.com/lifesciences**.

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For additional product or technical information, visit **www.corning.com/lifesciences** or call 800.492.1110. Outside the United States, call +1.978.442.2200 or contact your local Corning sales office.

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