VWR
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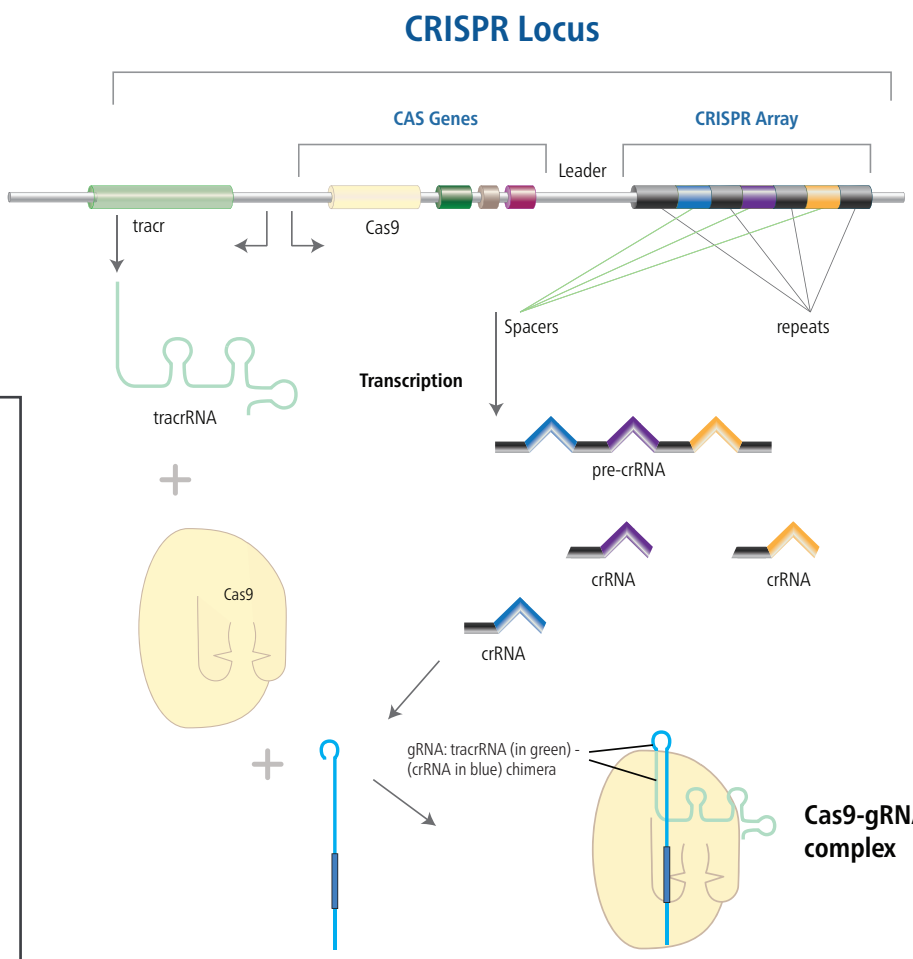

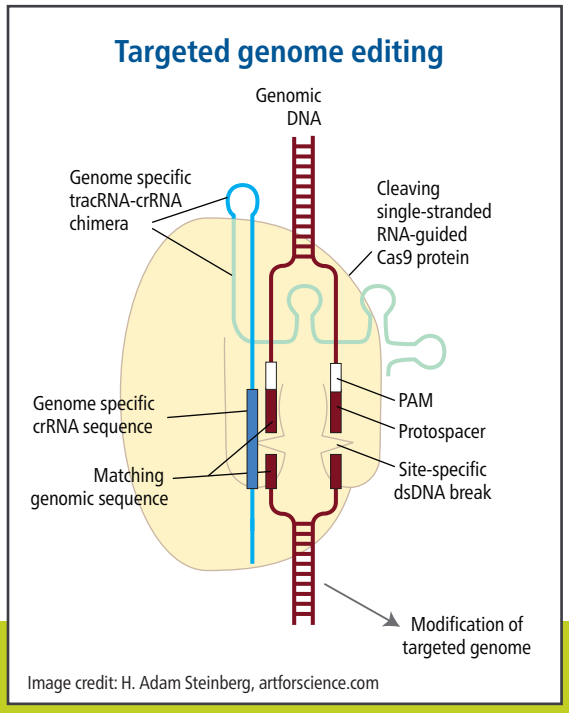

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CRISPR Glossary

CAS: CRISPR-associated sequence; DNA that codes multiple Cas proteins, typically adjacent to CRISPR DNA

Cas: Cas proteins; Family of proteins coded by the CAS genes

Cas9, Csn1: Two specific Cas proteins that have nuclease activity to cut DNA sequences complementary to complexed crRNA

crRNA: CRISPR RNA; Small RNAs (sRNA) coded by the CRISPR DNA. crRNA is the mature form of pre-crRNA

pre-crRNA: precursor CRISPR RNA; Long, immature (precursor) mRNA transcribed from CRISPR genes

CRISPR: Clustered Regularly Interspaced Short Palindromic Repeats; Refers to the structure of the DNA that codes the small RNA (sRNA) called CRISPR RNA (crRNA).

CRISPR Array, Repeat Array: Series of crRNA coding DNA called spacers, separated by "repeat" DNA (repeats).

DSB, dsDNA Break: Double-Stranded Break; Cleavage/cutting of both DNA strands

gRNA , sgRNA: guide RNA, single guide RNA; Engineered construct containing sequences for both the tracrRNA and crRNA which is used for CRISPR/Cas9 mediated genome editing (Type II CRISPR system)

HDR: Homology-Directed Repair; A eukaryotic mechanism for DNA repair harnessed as part of CRISPR genome editing

Indel: Insertion and/or deletion in original DNA sequence

NHEJ: Non-Homologous End Joining; The second eukaryotic DNA repair mechanism that only requires one to few complementary bases and is therefore is not ideal for genome editing applications

PAM: Protospacer-Adjacent Motif; Short sequence located next to the target DNA sequence (protospacer) found to be necessary for tracrRNA and crRNA (gRNA) to direct Cas9 to cleave adjacent DNA

Repeats, Repeat DNA: DNA sequences between crRNA coding DNA that are palindromic so the transcribed RNA can base pair with itself, creating the necessary loop structures.

tracrRNA, trRNA: trans-activating crRNA ; Works along with RNase III to modify pre-crRNA into crRNA in Type II CRISPR systems

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