

WHY WE USE ANTI-CRISPR ?

Current Problem

IN CRISPR-Cas System there a few problems:

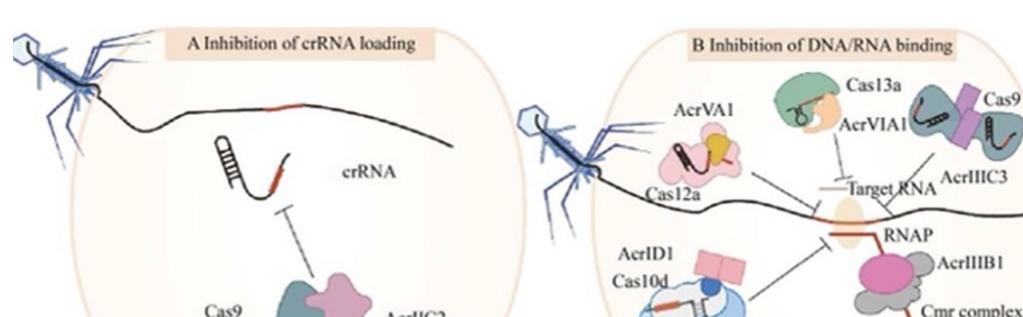
- Off-target effect: May disable tumor suppressor genes or activate oncogenes.
- Imprecise control: Any individual genome is not identical. A same system may cause different result, which based template organism.
- Interferes function: Its affects cell function by influencing other DNA binding proteins.

Solution

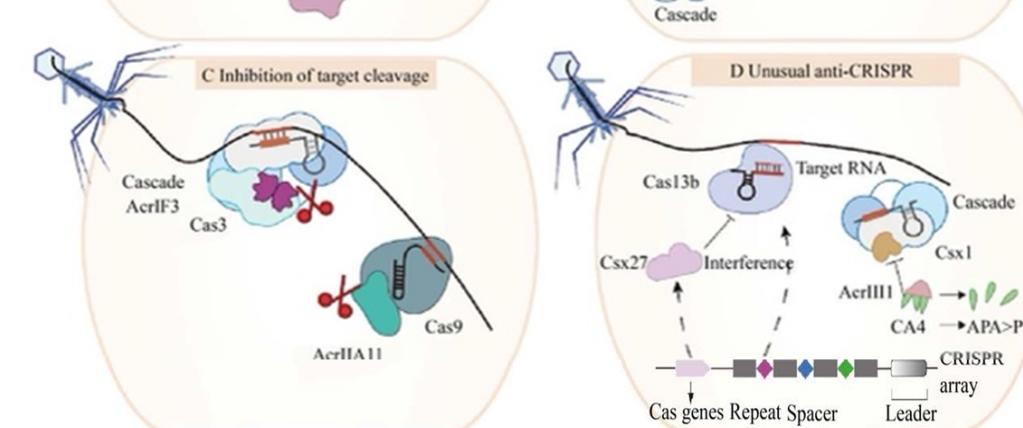
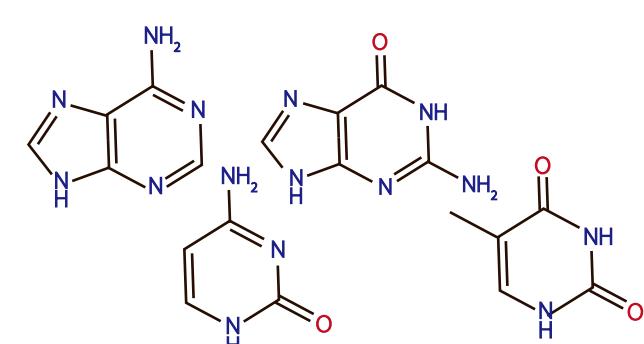
Enhance PAM/SgRNAs sequence's specificity.

Anti-CRISPR protein,which reduce off-target effect with those ways below.

Inhibition of CRISPR CAS complex assembly.
(inhibits crRNA loading)

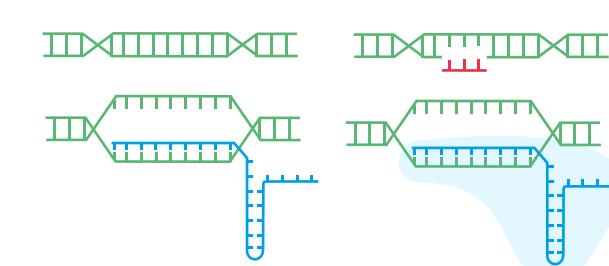


Inhibition of target cleavage.



Repressive complex binding to target.

Non-CRISPR complex regulation
Like: degradation of cyclic
oligonucleotide signaling
molecules.



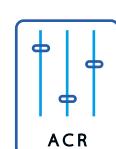
ACR's Advantages



Heritable encoding
CAS activity, quantity, and
duration can be adjusted as
needed.
Sustainable protection of
cells from editing.

Broad spectrum

Tunable targeting of multi-
ple variants of CRISPR CAS
systems without redesign of
each CAS protein.



Selection diversity

There are multiple ACR
onsets with wide variations
for the same CAS protein,
which can be chosen
according to practical
needs.



Easy to use
Easy integration into a wide range of
in vitro and in vivo systems elimi-
nates the need for expensive
ligands, equipment, or other pro-
cessing.