

CRISPR

Dr Michael Flower 2017 11 09 () Dr Ed Wild Prof Wooseok Im
2017 11 02 ()

(Huntington) 'DNA (DNA surgery)'

DNA . DNA . 4 " - A, T, G, C - **
 DNA , DNA **



DNA

?

** huntingtin * . HD , CAG
 *** huntingtin **

DNA ? DNA
 DNA ** nucleases" . ** CRISPR ** . 1990
 CRISPR , . 2002 , nucleases
 Nucleases 'Cas' . 2005 , DNA DNA

CRISPR Cas (CRISPR / Cas) . DNA
 CRISPR . CRISPR, viral DNA, nuclease DNA
 , 2012 Jennifer Doudna Emmanuelle Charpentier DNA Cas DNA
 Cas nuclease .

CRISPR Cas . CRISPR Cas DNA
 DNA . CRISPR Cas DNA
 Cas . DNA Cas .

“KamiCas9 4 ”
 CRISPR / Cas beta-thalassemia

‘huntingtin ’ huntingtin antisense oligonucleotide (ASO)
 DNA
 DNA CAG . CRISPR / Cas
 DNA CAG . HTT

CRISPR / Cas

CRISPR Cas DNA . cas nuclease DNA ,
 Cas Nuclease DNA . Cas . , “ ”
 CRISPR / Cas DNA .



(University of Lausanne)

(Nicole Déglon)

. HTT

Cas

huntingtin

CRISPR / Cas

, CRISPR

Cas nuclease

DNA

. DNA

'KamiCas9'

CRISPR

Huntingtin

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Huntingtin

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Déglon

. [FAQ](#) ...



CAG

CAG

