GENEAK NAHIERAN ALDATZEA, ETORKIZUNEKO BOTIKA?

Koldo Garcia Etxebarria

BOLO-BOLO

NATURE | NEWS

عربي

365 days: The science events that shaped 2015

Gene-editing, climate change and Pluto are among the year's top stories.

Monya Baker, Ewen Callaway, Davide Castelvecchi, Lauren Morello, Sara Reardon, Quirin Schiermeier & Alexandra Witze

17 December 2015

NATURE | NEWS

عربي

The science to look out for in 2016

Space missions, carbon capture and gravitational waves are set to shape the year.

Elizabeth Gibney

22 December 2015 | Corrected: 22 December 2015

Cut-and-paste genes

Human trials will get under way for treatments that use DNA-editing technologies. Sangamo Biosciences in Richmond, California, will test the use of enzymes called zinc-finger nucleases to correct a gene defect that causes haemophilia. Working with Biogen of Cambridge, Massachusetts, it will also start a trial to look at whether the technique can boost a functional form of haemo-globin in people with the blood disorder β-thalassaemia. Scientists and ethicists hope to agree on broad safety and ethical guidelines for gene editing in humans in late 2016. And this year could see the birth of the first gene-edited monkeys that show symptoms of the human disorders they are designed to model.

BOLO-BOLO

b Gizartea | Genetikako iraultzarik berriena

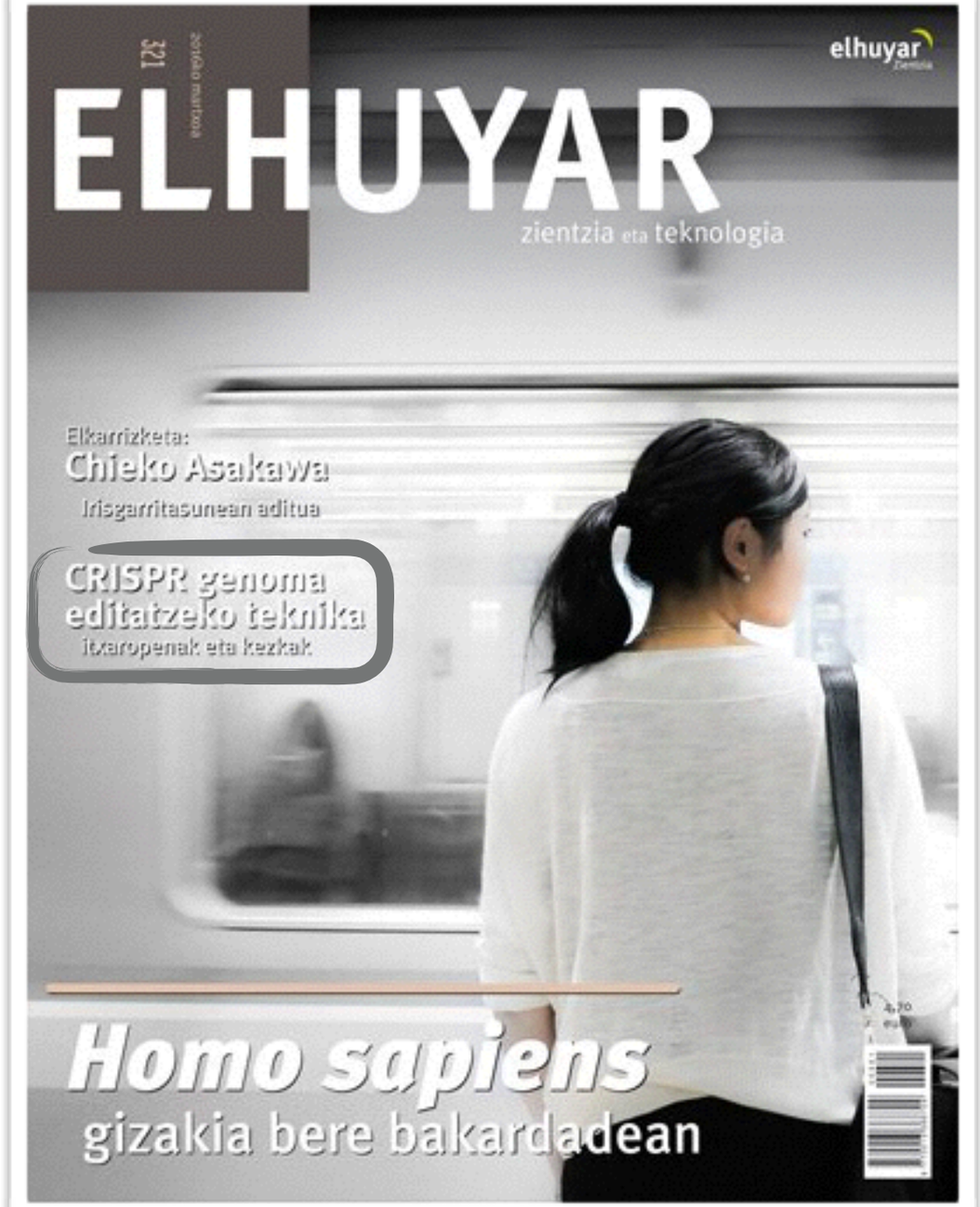
Argazkia: BERRIA

2016-03-02 / Arantxa Iraola

Otsail hasieran hotsandiz zabaldu zen albistea hedabideetan: Erresuma Batuak giza enbrioien edizio genetikoari oniritzia eman dio. Jakin ahal izan zen Erresuma Batuko Giza Ugalketarako eta Enbriologiarako Agintaritzak baimena eman ziola Londresko Francis Crick ikerketa

Arantxa Iraola

Follow @ArantxaIraolaAl



321 zenbaki marrazoa

elhuyar zientzia

ELHUYAR

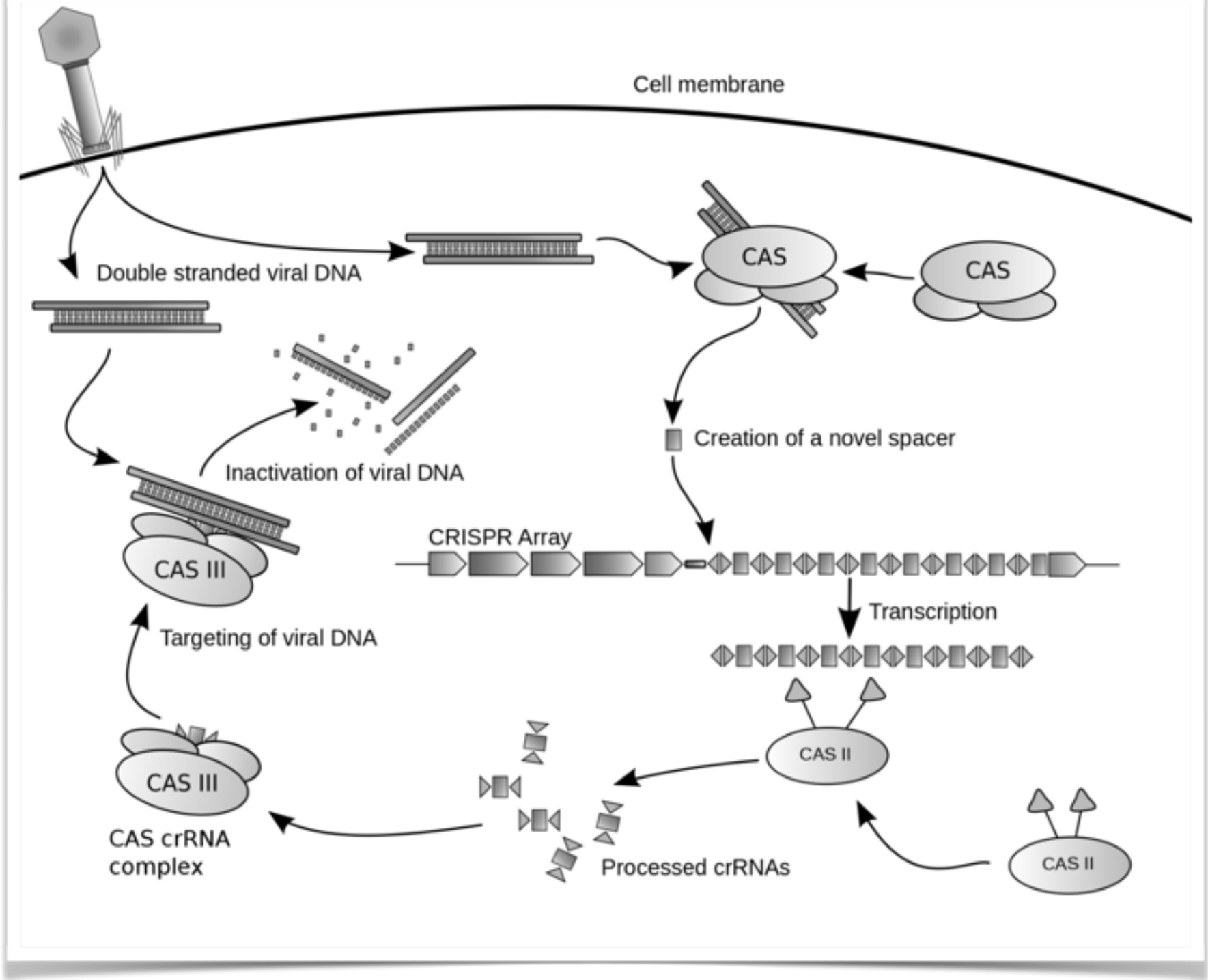
zientzia eta teknologia

Elkarrizketa:
Chieko Asakawa
Irisgarritasunean aditua

CRISPR genoma editatzeko teknika
Itxaropenak eta kezkak

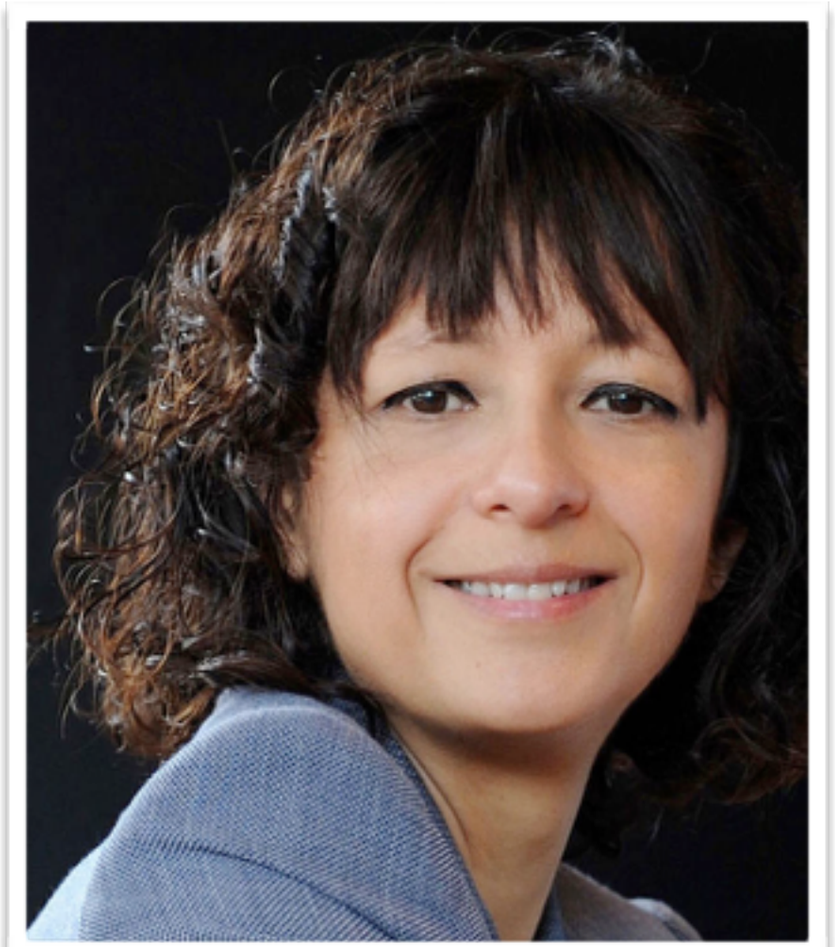
Homo sapiens
gizakia bere bakardadean

ZER DA CRISPR/CAS9?



By James atmos - Own work, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=7821536

ZER DA CRISPR/CAS9?



E. Charpentier

J. Doudna

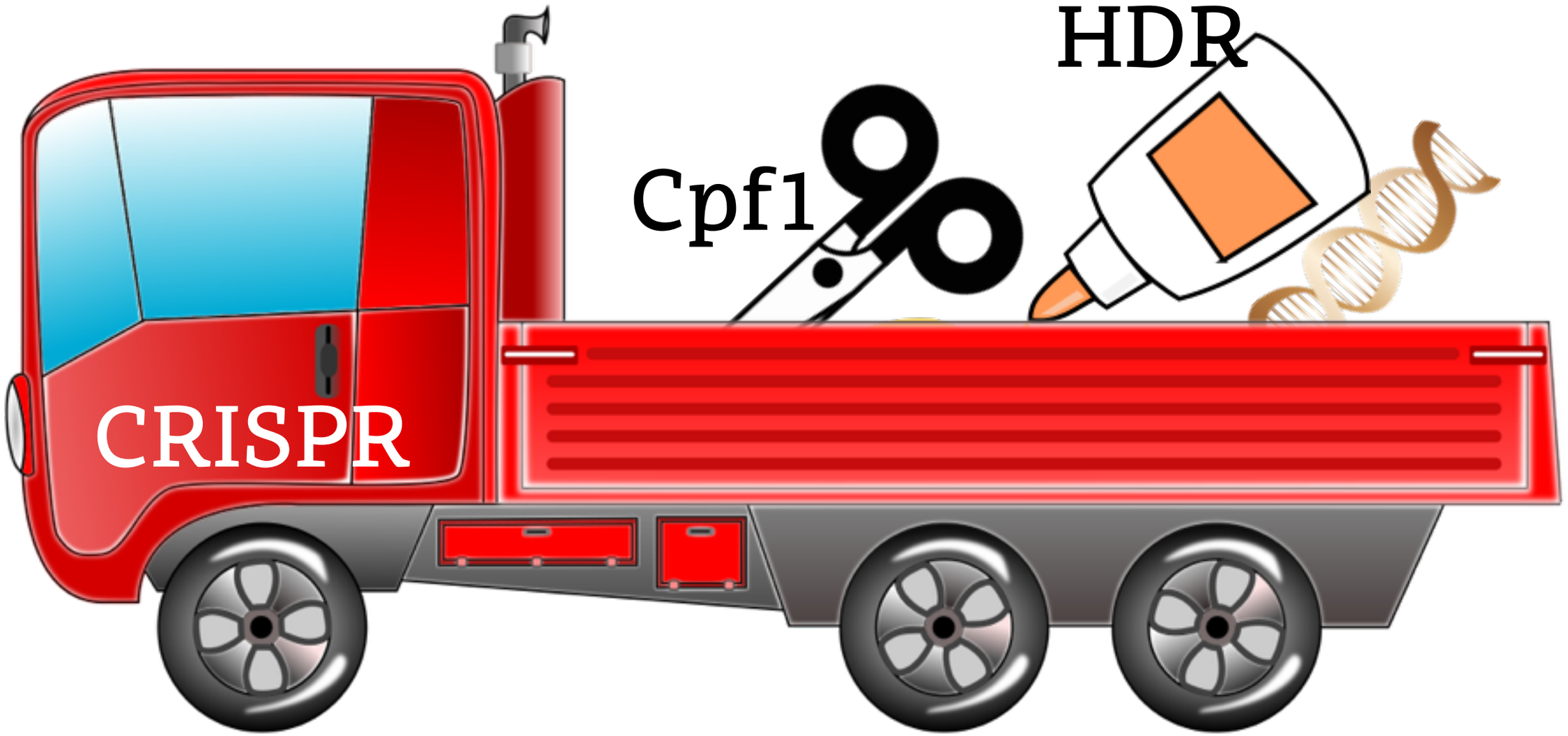
Bianca Fioretti, Hallbauer & Fioretti, copyright owned by Emmanuelle Charpentier who made it a Creative commons picture, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=44041020

Kenneth C. Zirkel - Trabajo propio, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=40427129

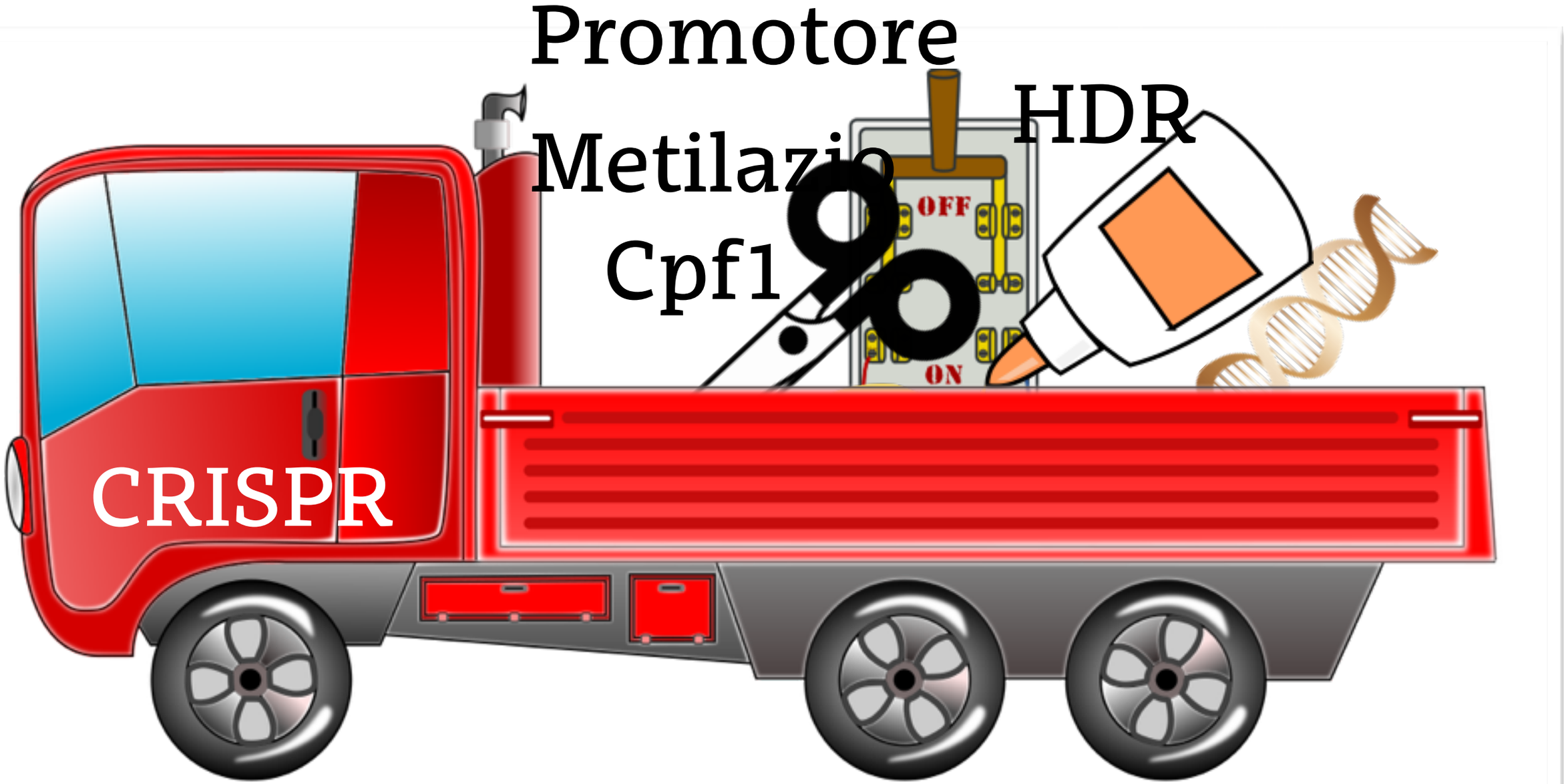
ZER DA CRISPR/CAS9?

ZER DA CRISPR/CAS9?

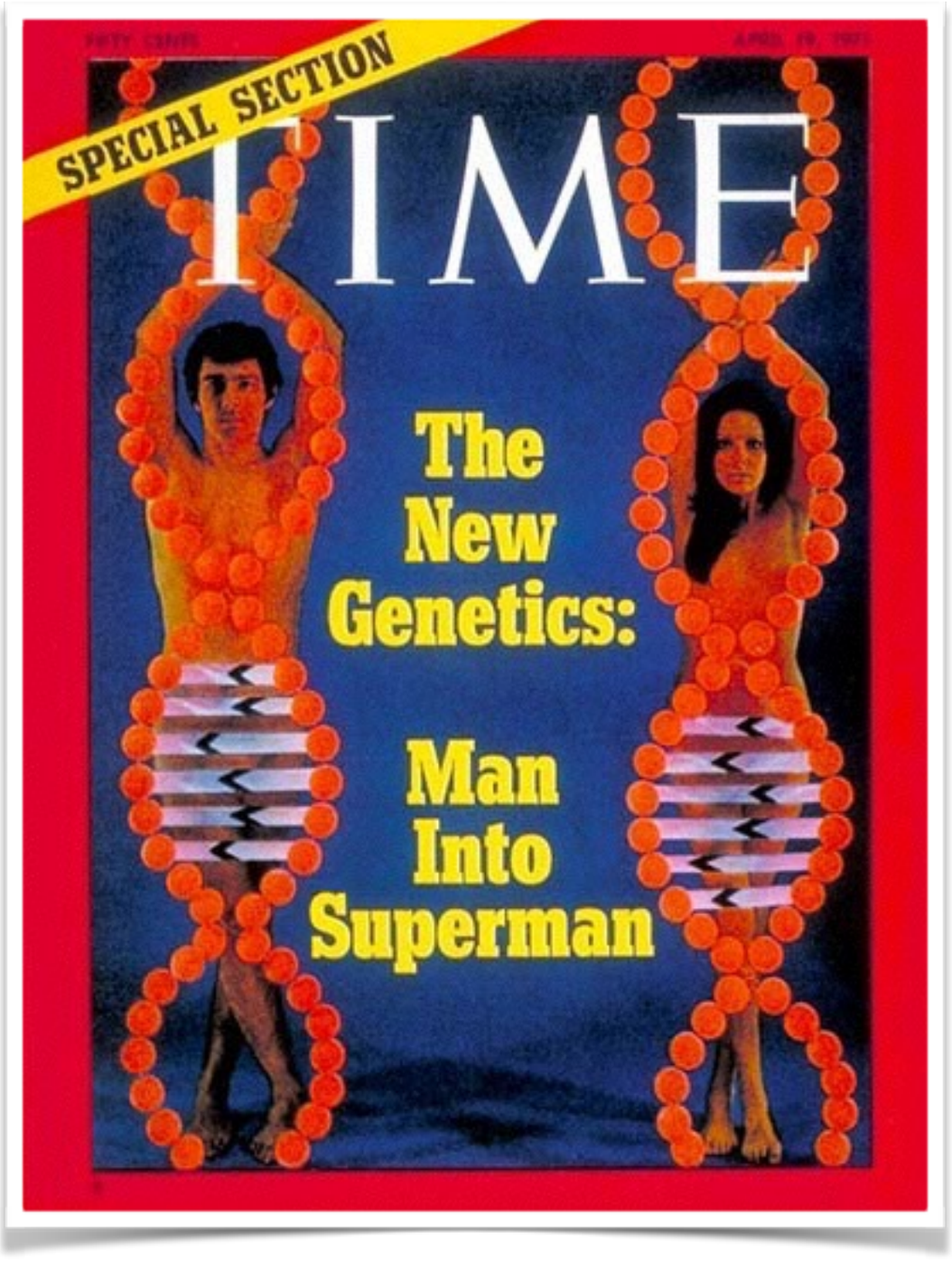
ZER DA CRISPR/CAS9?



ZER DA CRISPR/CAS9?



GENETIKAREN PROMESAK IRAGANEAN



1971!

GENETIKAREN PROMESAK IRAGANEAN

1994

1999

2000

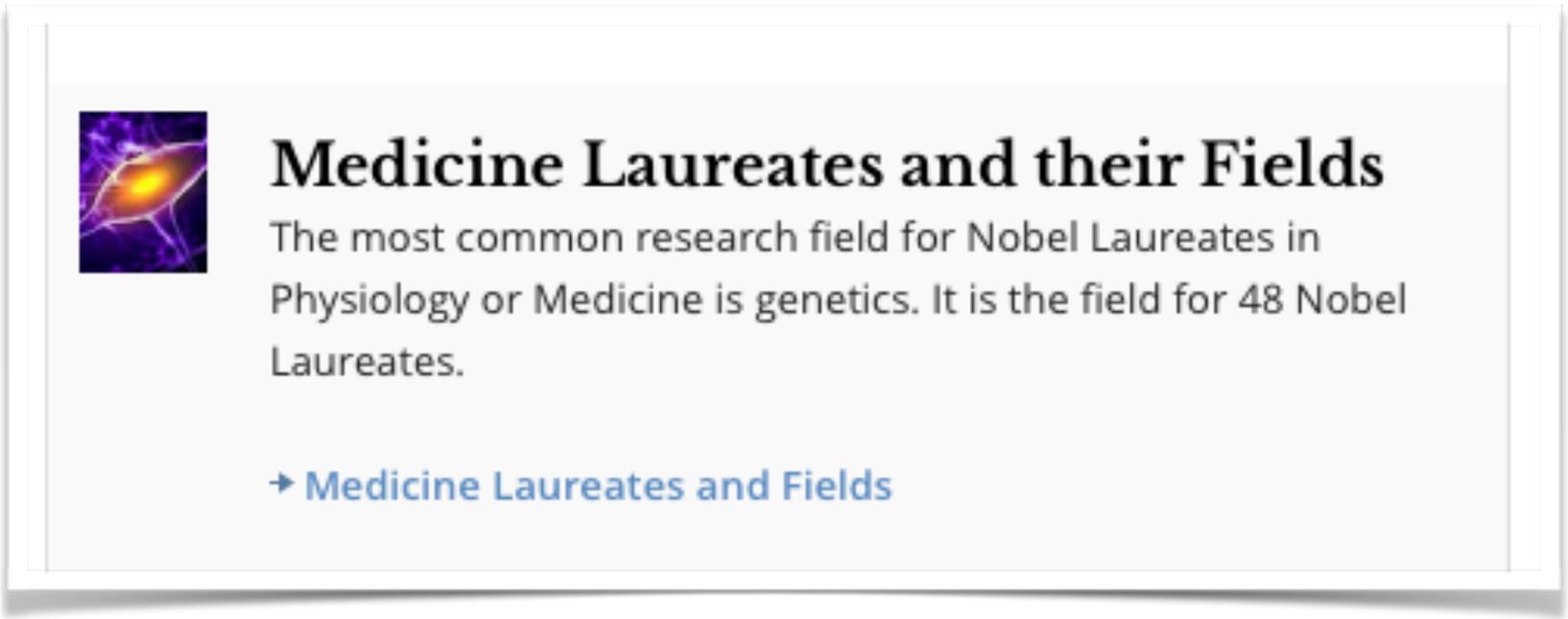
2001

2003

2010

2012

GENETIKAK ASKO EGIN DU



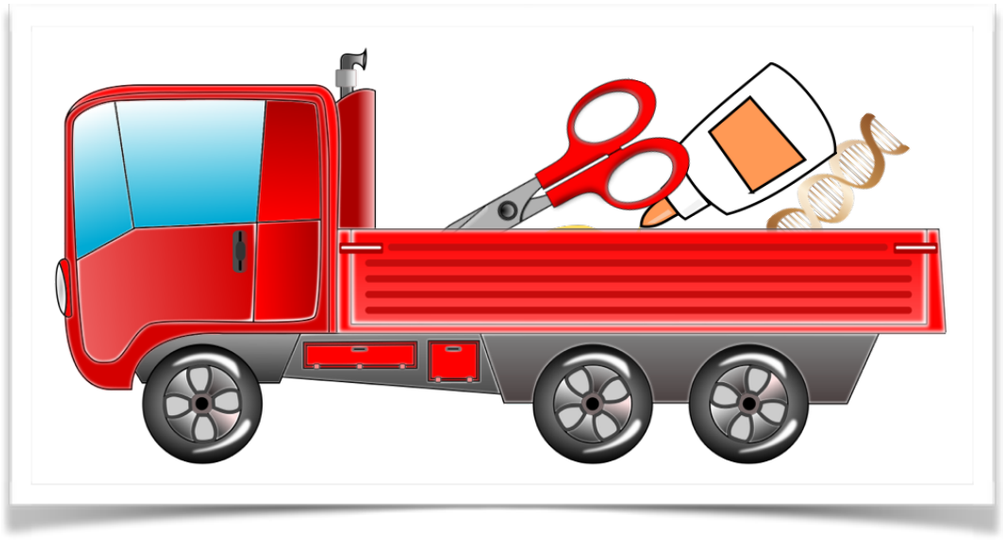
Medikuntzako Nobel saridunen %23!

OINAK LURREAN

- Merkeagoa, arinagoa, errazagoa, egonkorragoa, eraginkorragoa

siRNA

knockdown



mutazioak sartu

HAU BIOLOGIA DA!

TEKNIKA HOBETZEN

NATURE | NEWS

CRISPR-like ‘immune’ system discovered in giant virus

Mimivirus defence system might lead to new genome-editing tools

Ewen Callaway

29 February 2016

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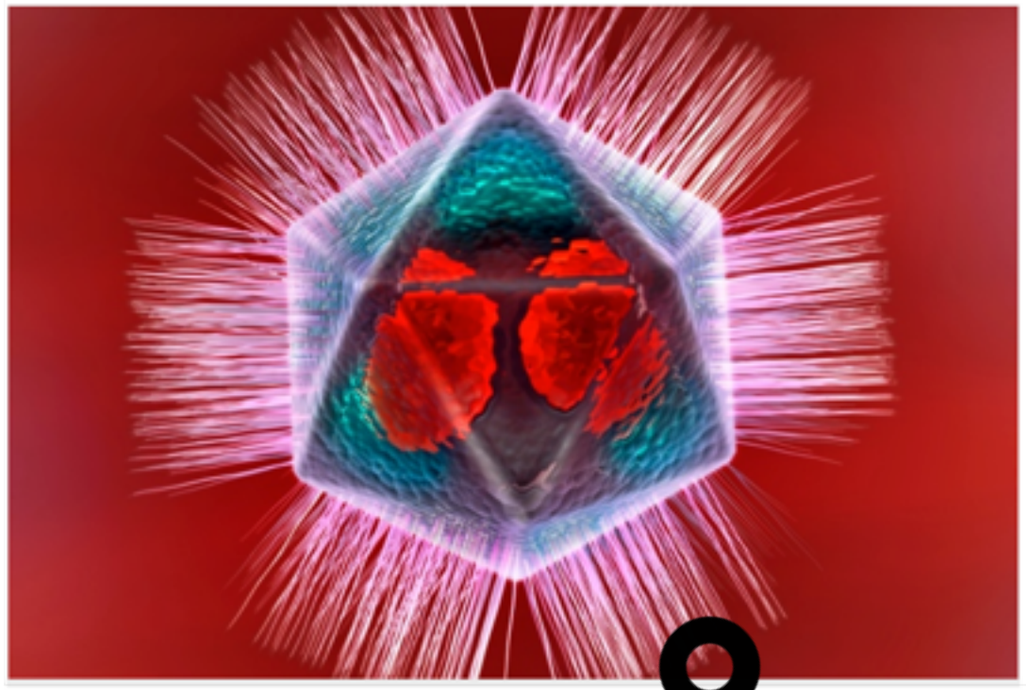

PERSPECTIVE | RNA

CRISPR goes retro

Erik J. Sontheimer[1], Luciano A. Marraffini[2]

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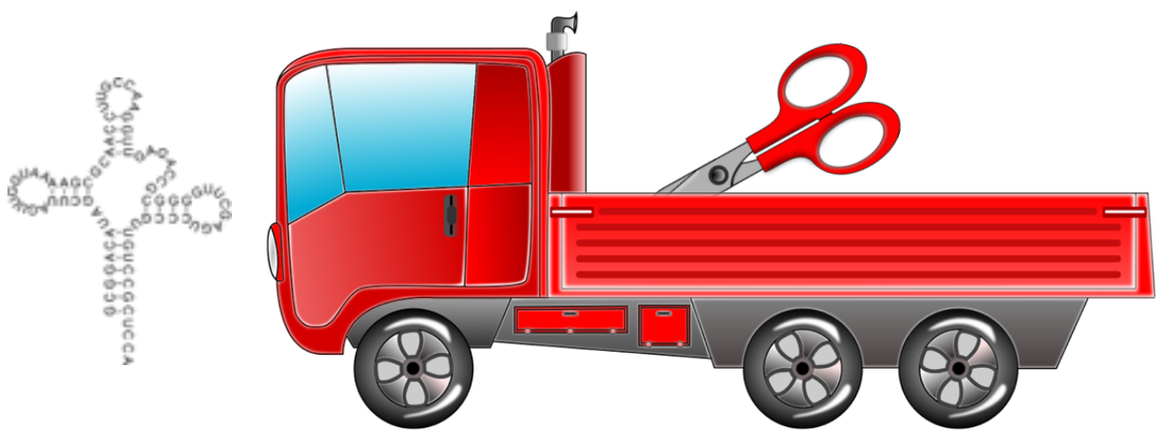
DOI: 10.1126/science.aaf2851



TEKNIKA ERABILTZEN

Gene-editing method revives hopes for transplanting pig organs into people

By **Kelly Servick** | Oct. 11, 2015 , 8:00 PM

Thanks to a powerful new gene-editing technique, researchers have made a stride toward engineering safer pig organs for human transplants. In a paper in *Science* today, they describe using the CRISPR editing method in pig cells to destroy potentially harmful DNA sequences at 62 sites in the animal's genome. It's the most extreme example to date of the precise yet widespread genetic changes possible through CRISPR. It's also raising hopes that

Researchers hope to raise gene-edited pigs for organ transplants. Edward Westmacott/iStockphoto

Ancient viral DNA in our genome may help fight infection. ktsimage/iStockphoto

Viral 'fossils' in our DNA may help us fight infection

By **Monique Brouillette** | Mar. 3, 2016 , 2:00 PM

ASMATZAILEAREN AUZIA

berria

Gizartea

0 0

ARGI ALDIAN

Eraldaketa genomikoaren borrokak

2016-01-17 / Jose Antonio Rodriguez - EHUko Genetika irakaslea

Aspaldi honetan, CRISPR izeneko teknologia berri bat genetika alorrean lan egiteko modua goitik behera aldatzen ari da. CRISPR erabiliz, posible da genoma

Jose Antonio Rodriguez - EHUko Genetika irakaslea

ZER KONPONDU?

GAIXOTASUN GENETIKOAK

- Gene bakarra (Mendeliarrak)
  - Gaixotasun arraroak
  - Genearen mutazioa jakin ohi da

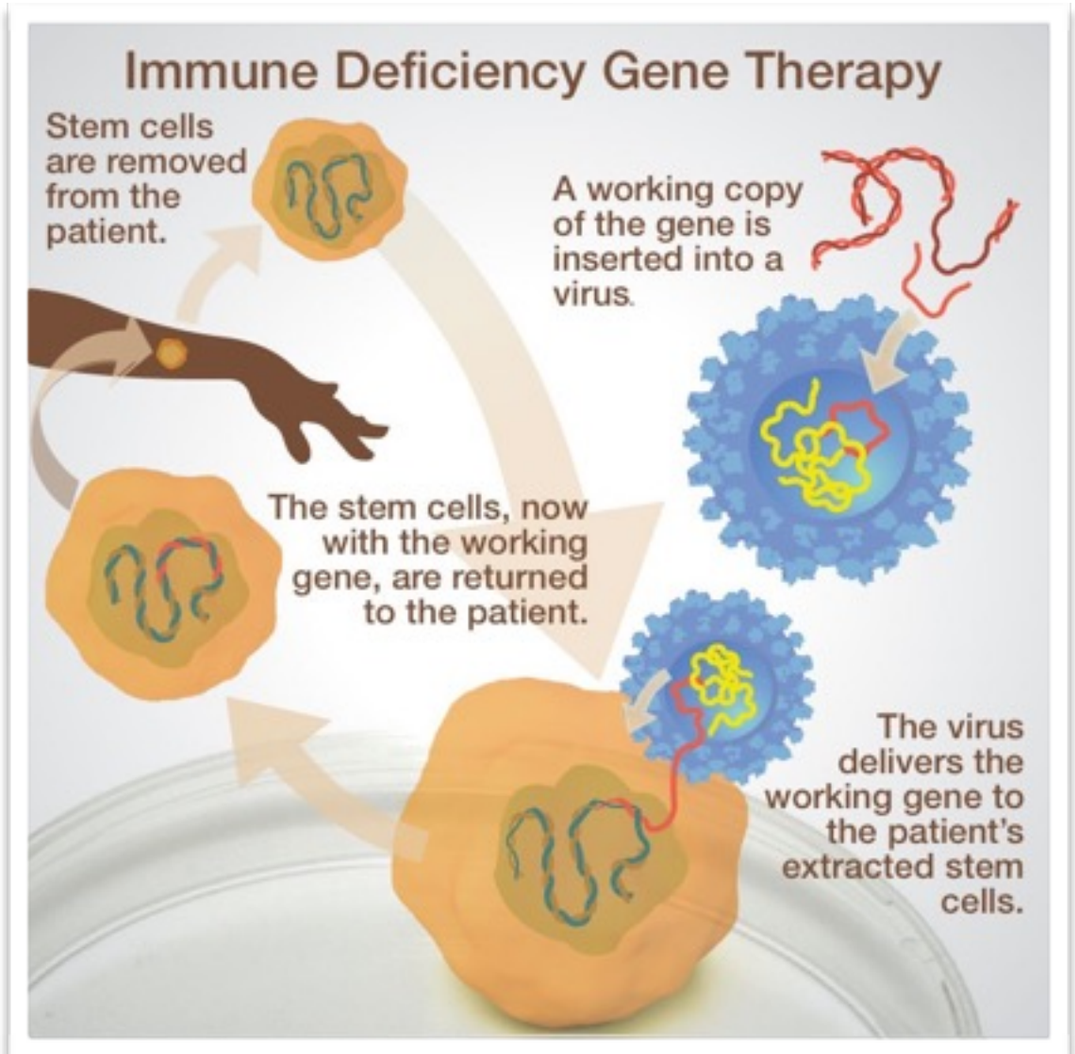
GAIXOTASUN GENETIKOAK

- Gene asko (Konplexuak)
  - Gene guztiak ez dira ezagunak
  - Zenbat editatu?

?

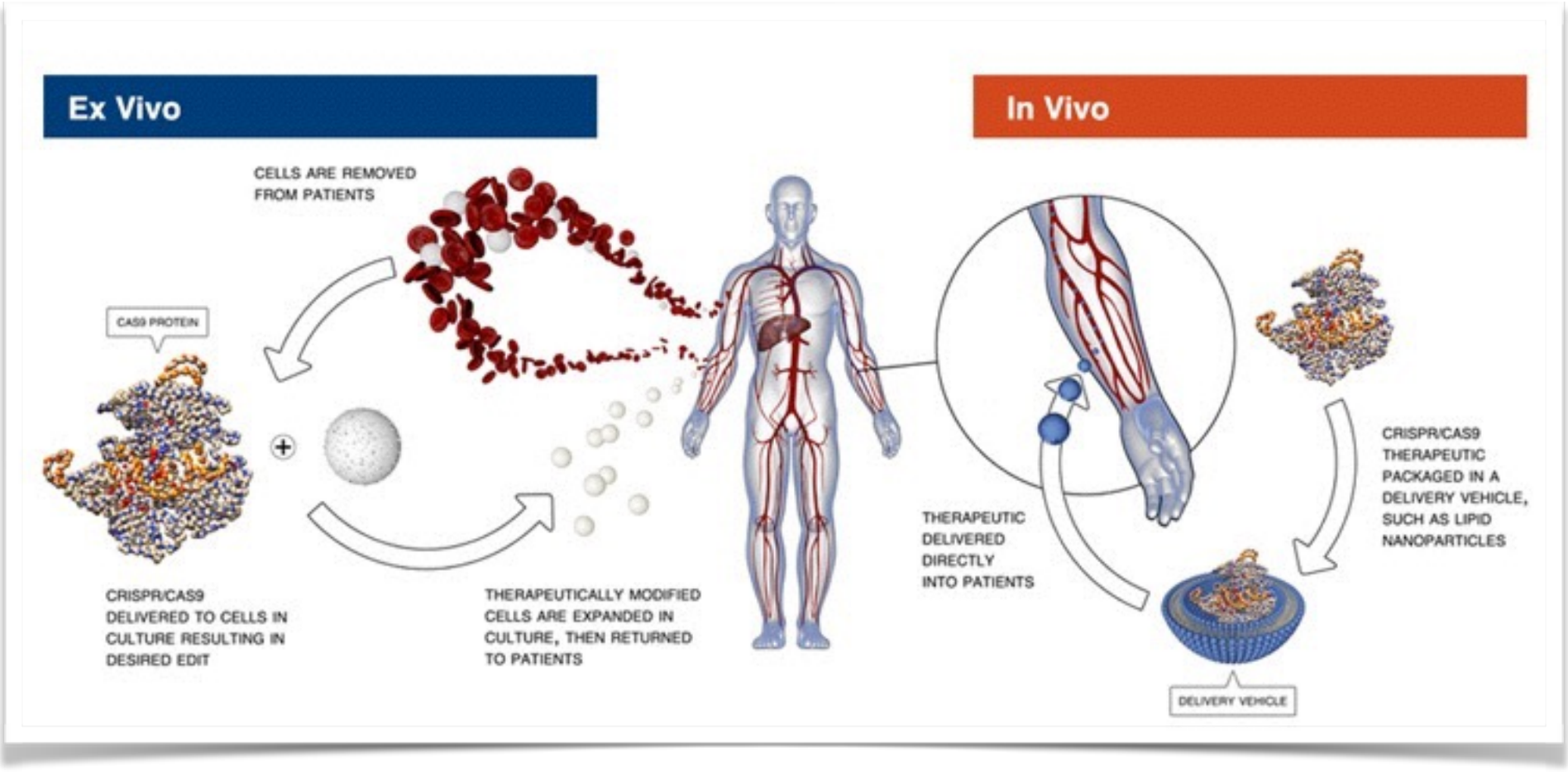
TERAPIA GENETIKOAK

- Eraginkortasun mugatua
- Efektu sekundarioak



TERAPIA GENETIKOAK

- Nola garraiatu?



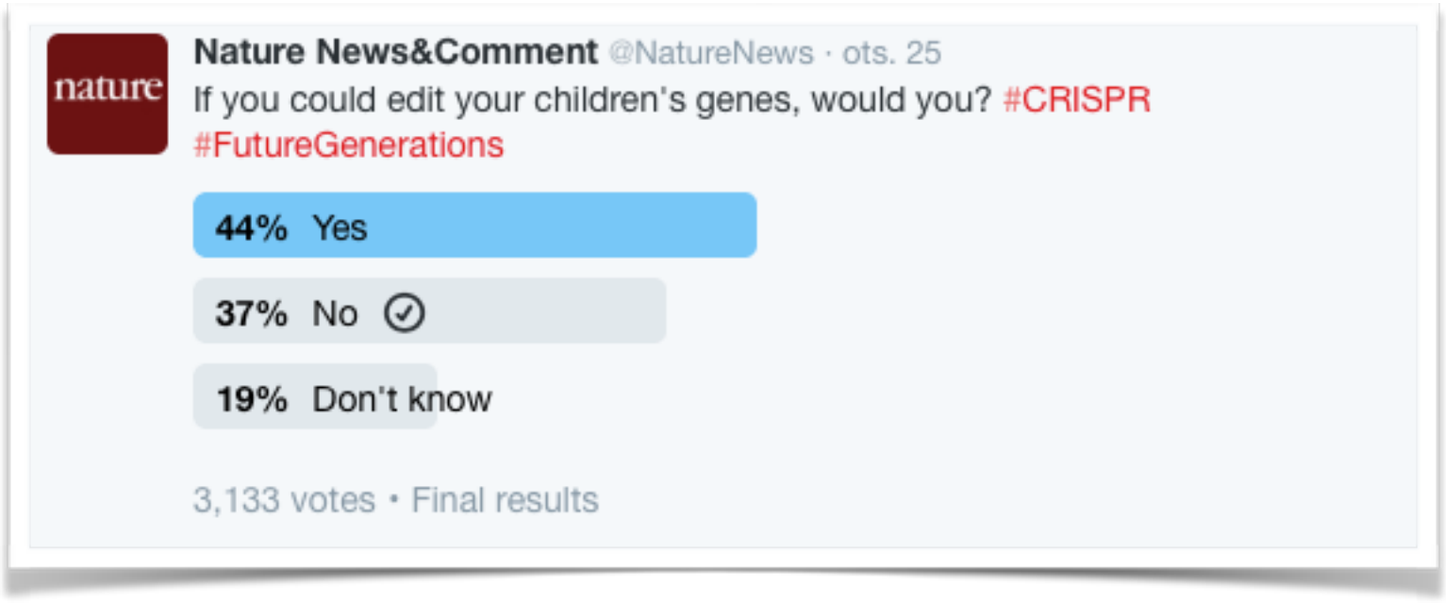
- Gaixotasuna gelditu

EDITATU,
BAI ALA EZ?

HITZEN GARRANTZIA

- DNA manipulatu == DNA maneiatu

EZTABAIDA ETIKOA



EZTABAIDA ETIKOA

ELHUYAR
zientzia eta teknologia

ALBISTEAK ERREPORTAJEAK GAI NAGUSIAK ELKARRIZKETAK ISTORIOAK IRITZIA

Hasiera » Albisteak » Giza enbrioiak genetikoki eraldatu dituzte, lehen aldiz

Entzun Elhuyar aldizkaria

2015/04/28 318. zenbakia

GENETIKA BIOTEKNOLOGIA MEDIKUNTZA

Giza enbrioiak genetikoki eraldatu dituzte, lehen aldiz

Esperimentuak eztabaida etiko bizia eragin du

Galarraga Aiestaran, Ana
Elhuyar Zientzia

EZTABAIDA ETIKOA

EZTABAIDA ETIKOA

berria

Gizartea >

ARGI ALDIAN

Urteko lorpena, duda etikoen eragile

2015-12-27 / Ana Galarraga - Elhuyar Zientzia

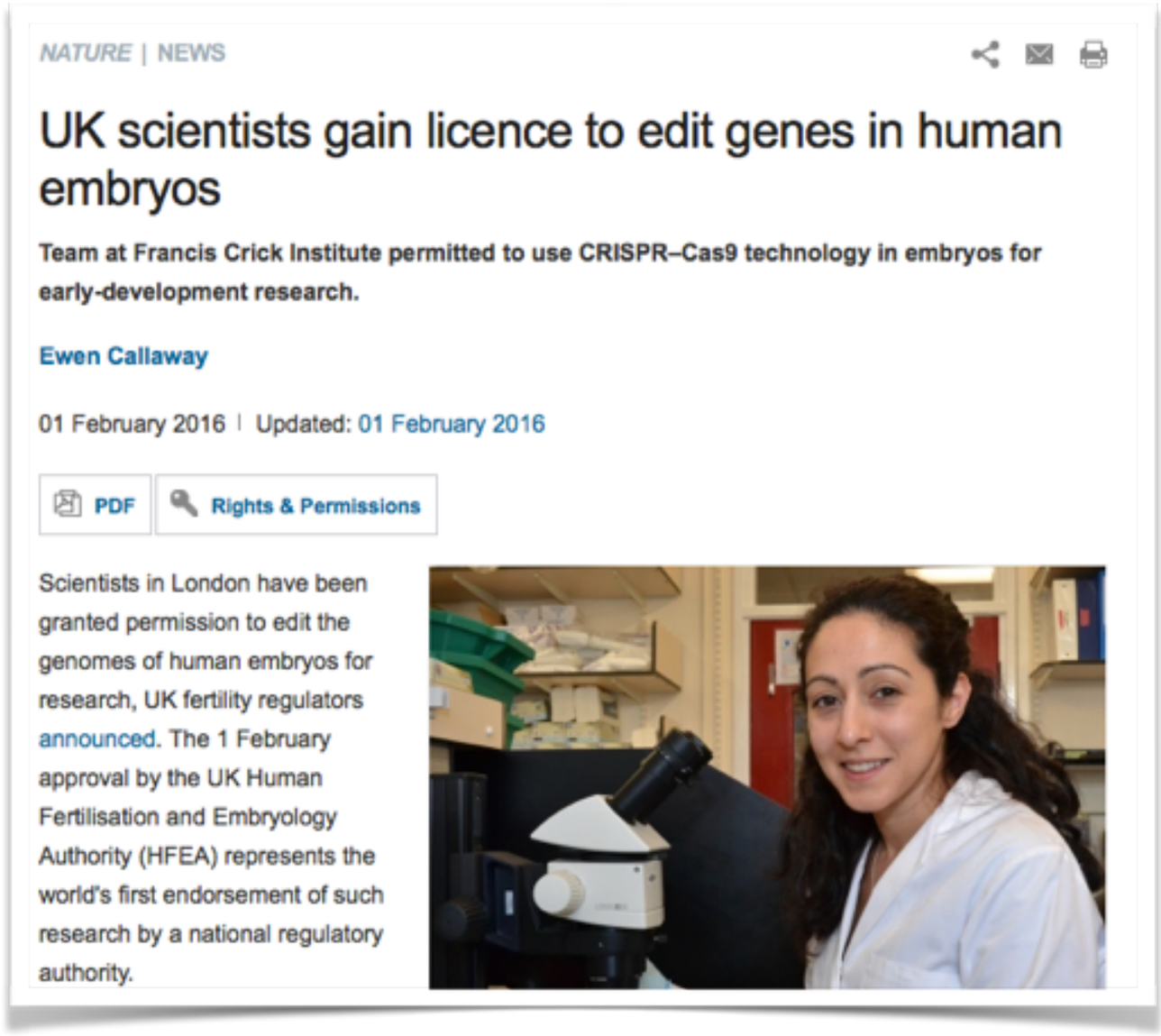
Urtero bezala, lorpen zientifiko-teknologiko nagusien zerrenda egin dute zientzia-aldizkariek, eta gehienek gai bera aukeratu dute lehen tokirako: CRISPR teknika. Geneak eraldatzeko teknika horrek itxaropen handia piztu du, eta, aurreko urteetan ere aipatu izan duten arren, aurten iritsi da zerrendaburu izatera.

Ana Galarraga - Elhuyar

Zientzia

PUBLIZITATEA

EZTABAIDA ETIKOA



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UK scientists gain licence to edit genes in human embryos

Team at Francis Crick Institute permitted to use CRISPR–Cas9 technology in embryos for early-development research.

Ewen Callaway

01 February 2016 | Updated: 01 February 2016

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Scientists in London have been granted permission to edit the genomes of human embryos for research, UK fertility regulators announced. The 1 February approval by the UK Human Fertilisation and Embryology Authority (HFEA) represents the world's first endorsement of such research by a national regulatory authority.

EZTABAIDA ETIKOA

- Zer da gaixotasun bat?

- Genetikoki eraldatutako organismoak

Mugarria ala kea?

ESKERRIK ASKO!