

SRI-08: The 8th Annual Symposium of Summer Research Institute of Saint Thomas University, Sept 16th, 2016, Saint Thomas University (STU) & Miami Dade College (MDC), Miami, FL, USA

CRISPR-Cas Gene Editing: Regulatory Issues and Applications

Aliuska Duardo-Sanchez *

Department of Public Law, University of Basque Country, Campus Leioa, 48940, Biscay, Spain

Abstract: CRISPR-Cas gene editing methods is an emerging powerful tools in biosciences. Applications of CRISPR to synthetics biology, biotechnology, personalized medicine, drug discovery etc, generates a series of legal and bioethics questions. This generates in turn the necessity of new regulatory issues. In this work we discuss more recent applications of CRIPSR focused on drug discovery with incidence of human genome information. This includes, but is not limited to: resistance-selection studies of antimalarial drugs; new animal models for drug assay, etc. We also, discuss the legal regulation and ethical aspects of this area of human genome editing related to drug discovery.

* Correspondence: aliuska.duardo@ehu.es

Keywords: CRISPR-Cas; Drug discovery; Human genome; Gene editing legal issues.

References:

- 1. UNESCO: Report of the IBC on Updating Its Reflection on the Human Genome and Human Rights SHS/YES/IBC-22/15/2 REV.2 Paris, 2 October 2015.OTR
- 2. ISSCR: The ISSCR Statement on Human Germline Genome Modification, on 19 March 2015.
- 3. Hinxton Group: Statement on Genome Editing Technologies and Human Germline Genetic Modification, September 3-4, 2015.

- 4. National Academies of Science (USA), Royal Society (United Kingdom) Chinese Academy of Sciences: International Summit on Human Gene Editinga Global Discussion 2015. https://www.ncbi.nlm.nih.gov/books/NBK343651/. Accessed 29 March 2017.
- 5. NIH: Statement on NIH funding of research using gene-editing technologies in human embryos on April 28, 2015.
- 6. Lanphier E, Urnov F, Haecker S E, Werner M., Smolenski J., Don't edit the human germ line. Nature;2015; 519: 410-411.
- 7. Baltimore D, Berg P, Botchan M, Carroll D, Charo RA, Church G, Corn JE, Daley GQ, Doudna JA, Fenner M, Greely HT, Jinek M, Martin GS, Penhoet E, Puck J, Sternberg SH, Weissman JS, Yamamoto KR., Biotechnology. A prudent path forward for genomic engineering and germline gene modification. Science, 2015; 348(6230):36-8.
- 8. UNESCO: The Universal Declaration on the Human Genome and Human Rights of 11 November 1997.
- 9. UNESCO: Declaration on the Responsibilities of Present Generations towards Future Generations of 12 November 1997.