Discovering CRISPR/Cas9
Cristina Prieto Pascual | Educational Project | Genetics Degree (2016)

1. Introduction
Clustered regularly interspaced short palindromic repeats (CRISPR) and CRISPR-associated (Cas) proteins are found in many bacteria and most archaea. The type II system is a prokaryotic adaptive immune system that uses non-coding RNAs to guide the Cas9 nuclease to induce site-specific DNA cleavage, thanks to stored DNA sequences derived from plasmids and phages (Fig. 1).

As a technology, CRISPR/Cas9 system allows for simple and specific genomic targeting in any organism and, that way, it improves the existing genome editing approaches (Clontech 2016).

2. Objective
The aim of this project is to increase the knowledge of CRISPR/Cas9. As it is not well known, this topic provides an excellent opportunity to assess the effectiveness of educational material since everything that the project’s target groups learn can be attributed to such material.

Due to the complexity of the subject, the project is addressed to students of a scientific baccalaureate and also to high school teachers with scientific basis.

I decided to do this project because I think scientific dissemination is one of the key steps in the generation of knowledge and because good scientists should be good communicators too.

3. Material and Methods
In this project both traditional written methods and Information and Communication Technologies (ICTs) have been used.

4. Students’ results
It is a schematic summary of the key points of CRISPR/Cas9, easy to understand and pleasing to the eye. The leaflet (Fig. 3) includes a link to the website so students could consult it within the two days after answering the questionnaire and before the lecture. But the teacher in charge forgot to deliver it, so they had to read it in five minutes before the lecture and none was able to consult the website prior to answering again the questionnaire.

5. Conclusion
The initial objective has been achieved, that is, I have contributed to increase the knowledge of CRISPR/Cas9 in the target groups. But also it has unexpectedly spread, because the video of the lecture has about 215 views and the teachers’ video, over 80. In addition, some teachers showed them to their students.