iGEM 2013 Biosafety Form Part 2

Deadline: 30th of August 2013

Team name: Freiburg

Submission method: email form to the correct email list for your region:

safety_forms_asia@igem.org
safety_forms_europe@igem.org
safety_forms_north_america@igem.org
safety_forms_latin_america@igem.org

You must submit this form if you are working with any of the following:

- Organisms classified above Risk Group 1 (RG1) (or, if your country rates organisms with 4 being the *least* dangerous, organisms more dangerous than Risk Group 4)
- Coding regions derived from organisms above RG1
- Mammalian cells or organisms
- Genetic parts derived from mammals

If you are only working with organisms/parts that are rated Risk Group 1 (the safest risk group), and have filled out the Basic Safety Form, you do not need to submit this form. You may use your own country's standards or WHO standards to determine which organisms/parts require this form. Please see *2013.igem.org/Safety* for more information on how to determine the Risk Group of your organism and Biological Safety Level of your lab.

The following are *exempt* and do not require you to submit this form:

- *Pseudomonas aeruginosa* and any genetic parts derived from it.
- Any parts included in the 2013 official iGEM distribution kit. (Note: many Registry parts are not in the distribution kit, and these parts still require a Beyond the Basics Form if they come from an organism above RG1, or from a mammal.)

Please complete this form and have your team faculty advisor sign it by the deadline. While students can complete this form, the faculty instructor needs to read your answers and sign it (electronically or hard copy). The Safety Committee will review your submissions and may request further information if your project raises safety concerns. Projects that raise the most serious concerns will be required to complete an extended biosafety form. (We expect that this will only happen only in a very small number of cases).

Please note:

- Although this form is required only for organisms/parts above RG1, that does not mean that RG1 organisms are totally safe. Good judgment and proper lab practices are necessary at all times.
- Consult with your faculty advisor, and with the biosafety committee at your institution. This form does not replace local institutional review. You must receive approval from your government or institution as may be required under local law.

This form must be completed separately for each organism or part above RG1. Please cite sources, including web links as applicable, to support your statements.

1. Organism name and strain name or number.

Streptococcus pyogenes - Cas9

2. Organism Risk Group:

1 ○ 2 ◉ Greater than 2 ○

3. If you are using this organism as a chassis, write "chassis". If you are using a genetic part from the organism, give the name of the part and a brief description of what it does and why you are using it.

Cas9 - a CRISPR associated nuclease, which is able to specifically bind and cut DNA. It is a component of an adaptive bacterial immune system.

4. How did you physically acquire the organism or part?

We received a plasmid carrying the coding sequence from AddGene.

5. What potential safety/health risks to team members, other people at your institution, or the general public could arise from your use of this organism/part?

There are no potential risks.

6. What measures do you intend to take to ensure that your project is safe for team members, other people at your institution, and the general public?

We are working under the general guidelines of the University of Freiburg as well as under compliance to German regulations. They did not see any risks for public or coworkers.

7. If you are using only a part from the organism, and you believe the part by itself is not dangerous, explain why you believe it is not dangerous.

We do not see any realistic possibility of causing any harm to organisms out of context of laboratory work.

8. Why do you need to use this organism/part? Is there an organism/part from a less dangerous Risk Group that would accomplish the same purpose?

Cas9 is the main focus of our work, as we design new transcription factors. The features of Cas9 could not be replaced by other parts from less dangerous organisms.

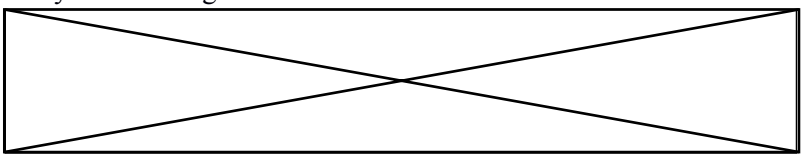
9. Is the organism/part listed under the Australia Group guidelines, or otherwise restricted for transport? If so, how will your team ship this part to iGEM and the Jamborees?

It is not listed.

10. Please describe the BioSafety Level of the lab in which the team works, or description of safety features of lab (Refer to Basic Safety form, question 8. d.). If you are using organisms with a BSL level greater than you lab, please explain any additional safety precautions you are taking.

The lab in which the team works is accredited to BSL 2.

Faculty Advisor Name:

Prof. Dr. Wilfried Weber

Faculty Advisor Signature: