

NTU iGEM SURVEY

Dear Participant,

We are a group of Nanyang Technological University (NTU) undergraduate students from the School of Chemical and Biomedical Engineering and the School of Biological Sciences. We are currently conducting a research project on gene editing and the purpose of this survey is to evaluate the level of awareness and attitudes the general public has towards gene editing technologies. Our research project involves the use of novel gene editing tools to correct mutations that cause disease.

Please be assured that the data collected from this survey will be used solely for the purpose of our research and your participation is voluntary. Your identity will be kept anonymous and your responses will be strictly confidential. If you agree to participate, please answer the questions in the questionnaire to the best of your ability. This survey will take approximately 5 minutes to complete. We appreciate your effort in spending your valuable time to answer these questions honestly.

Sincerely Yours,
Team NTU-Singapore iGEM 2019

Please read the following passage on DNA and RNA editing before starting on the survey.

DNA and RNA are molecules that are essential for life. DNA stores genetic information that determines the characteristics of the organism (e.g. eye color). RNA is temporary and utilizes the genetic information stored in DNA to make the functional components - proteins.

In recent years, scientists have found many ways to edit DNA and RNA. DNA editing could be potentially used for gene therapy (e.g. treating type 1 diabetes, β -thalassemia, and childhood blindness), and the resulting gene correction is permanent. The downside is that off-target side effects (where genes which were not meant to be targeted are still targeted for editing) would hence also be permanent. RNA editing has similar applications to DNA editing, but the effect is temporary and requires multiple treatments. However, off-target side effects can be relieved by simply stopping the treatment.

* Required

Section 1

1. **Considering gene editing can be easily achieved now, which area should be prioritised for future improvement? ***

Mark only one oval.

- Research & Development (e.g. understanding diseases)
- Healthcare (e.g. treating diseases)
- Environment (e.g. pest control, food production)
- Cosmetic (e.g. appearances, designer babies)
- Others

2. How far do you agree that... (1 - Strongly Disagree, 7 - Strongly Agree) *

Mark only one oval per row.

	1 - Strongly Disagree	2	3	4	5	6	7 - Strongly Agree
It is acceptable to genetically edit human cells for NON-MEDICAL purposes. (e.g. enhanced intelligence, appearance)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is acceptable to genetically edit human cells for MEDICAL purposes (e.g. prevent genetically inheritable diseases from being passed down from parent to child)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident in making an informed choice to undergo gene therapy if I were to be diagnosed with a genetic disease	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would support genetic modification as long as these genetic changes are not passed on to my children	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. Please rate the importance of the following factors in affecting your decision to adopt gene therapy. (1 - Very Low, 7 - Very High) *

Mark only one oval per row.

	1 - Very Low	2	3	4	5	6	7 - Very High
Cost	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Safety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Whether it affects my beliefs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
No other treatment options available	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Section 2

4. If you were to undergo gene therapy, which of the following treatments would you prefer? *

Mark only one oval.

- Single treatment, with permanent genetic changes and irreversible effects
- Multiple treatments, with temporary genetic changes and reversible effects
- I am not sure

5. How would you rate the level of risk associated with DNA editing in humans?

Mark only one oval.

	1	2	3	4	5	6	7	
No Risk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Highly Risky

6. How would you rate the level of risk associated with RNA editing in humans?

Mark only one oval.

	1	2	3	4	5	6	7	
No Risk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Highly Risky

General Demographics

7. Gender

Mark only one oval.

- Male
- Female

8. Age

Mark only one oval.

- <21
- 21 - 30
- 31 - 40
- 41 - 50
- >50

9. Education Level

Mark only one oval.

- PSLE
- GCE O LEVELS
- GCE A LEVELS
- Diploma
- Degree
- Masters/PhD

THE END!

Thank you for taking the time to complete this survey. We sincerely value the responses you have submitted. Please feel free to contact us if you have any further queries or suggestions by emailing us at ntuigemsg@gmail.com.