

# GENOME

ADVENTURES





## Collaborative African Genomics Network

- Makerere University College of Health Sciences, Kampala, Uganda
- Baylor-Uganda Children's Foundation, Kampala, Uganda
- Baylor College of Medicine, Houston, Texas, USA
- University of Botswana, Gaborone, Botswana
- **Botswana-Baylor Children's Clinical Centre of Excellence, Gaborone, Botswana**

Funded by Wellcome Trust



# Target Groups

Primary  
Young Adults

Business Community

General Public

Policy Makers &  
Scientists

## Forms of engagement

### COMICS

Workshops were used as platforms to engage stakeholders

#### Workshops

CAB was created by CAFGEN project to constantly advise the team

#### Community Advisory Board

#### Social Media & radio

#### Piloting



Social media and live radio sessions were used to reach out to target audiences

#### NARRATIVES/ STORYTELLING

Its easier to remember a story than text book!

Before publishing, comics were carried to schools to gauge their effectiveness

## WHY- COMICS & STORYTELLING?

### STORYTELLING:

Is easy to remember  
Easy to understand  
Emotional involvement

### COMICS:

A picture says a thousand words  
Relatable  
Provokes and challenges thoughts  
Less intimidating

### ANALOGIES & LANGUAGE

*Likening concepts to the science*  
Finding the balance without throwing  
people off  
Without entrenching misconceptions  
Descriptive language

### FLEXIBILITY

Character Development  
Exploring and experimentations-  
e.g. Superheroes



## THE STORY?

A boy named Kitso receives a letter inviting him to participate in a genomics study examining TB/HIV disease progression. As he grapples with the many unanswered questions in his mind and whether or not to participate, a group of **GA** superheroes arrive to help him understand what biomedical research and genomics are all about.

## Presented in 4 comic books:

- 1) History of heredity
- 2) Genes and DNA
- 3) The relatively new field of genomics & health
- 4) Processes (ethical) involved in genomics study enrolment

# ANALOGIES

## 1. Deletion of the CCR5/ mutations

Likening the deletion of the CCR5 to a key and a door handle or a padlock to demonstrate HIV virus infection

## 2. Inside of a cell

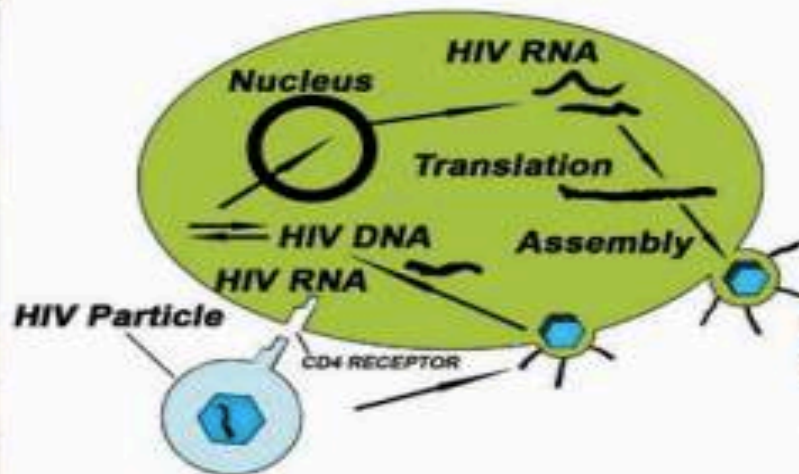
Likening the inside of a cell to a town, where organelles such as mitochondria- (power plant), lysosomes -(waste factory), Nucleus- (Library)

## 3. Sickle cell

Likening sickle cells to banana/ boomerang

NOW, WHAT IF I TOLD YOU WE COULD LOCK THE CD4 DOORWAY TO OUR PROTECTOR CELLS AND KEEP HIV OUT?

IS THAT POSSIBLE?



YES, **CCR5** IS THE LOCK ON THE CD4 DOOR. HIV USES A KEY FOR THIS LOCK TO OPEN THE CD4 DOOR, BUT IT TURNS OUT THAT SOME PEOPLES' GENES HAVE CAUSED THEM TO PRODUCE A MUTATED CCR5 RECEPTOR, WHICH LEAVES HIV WITHOUT A WAY TO UNLOCK CD4. AND GUESS WHAT?

WHAT?

SOME OF THOSE PEOPLE ARE RESISTANT TO HIV.

YOU MEAN HIV CAN'T ENTER THE CELL?

THAT'S RIGHT. HIV NEVER EVEN MAKES IT INTO THE CELL. AND BECAUSE THEY CAN'T ENTER THE CELL, THEY CAN'T MAKE THE PERSON SICK.

WOW! I WISH EVERYBODY'S GENES WOULD CREATE MUTATED CCR5.



WHAT ABOUT THAT ONE?  
THAT ONE LOOKS COOL!

COOL! LET'S DO IT.

THAT'S A LYMPHOCYTE,  
A TYPE OF WHITE BLOOD  
CELL. GOOD CHOICE.

WOAH!

NUCLEUS

28:23s

GUY5? HELLO?

CELL TOWN

GUY5, ARE YOU  
SEEING THIS?

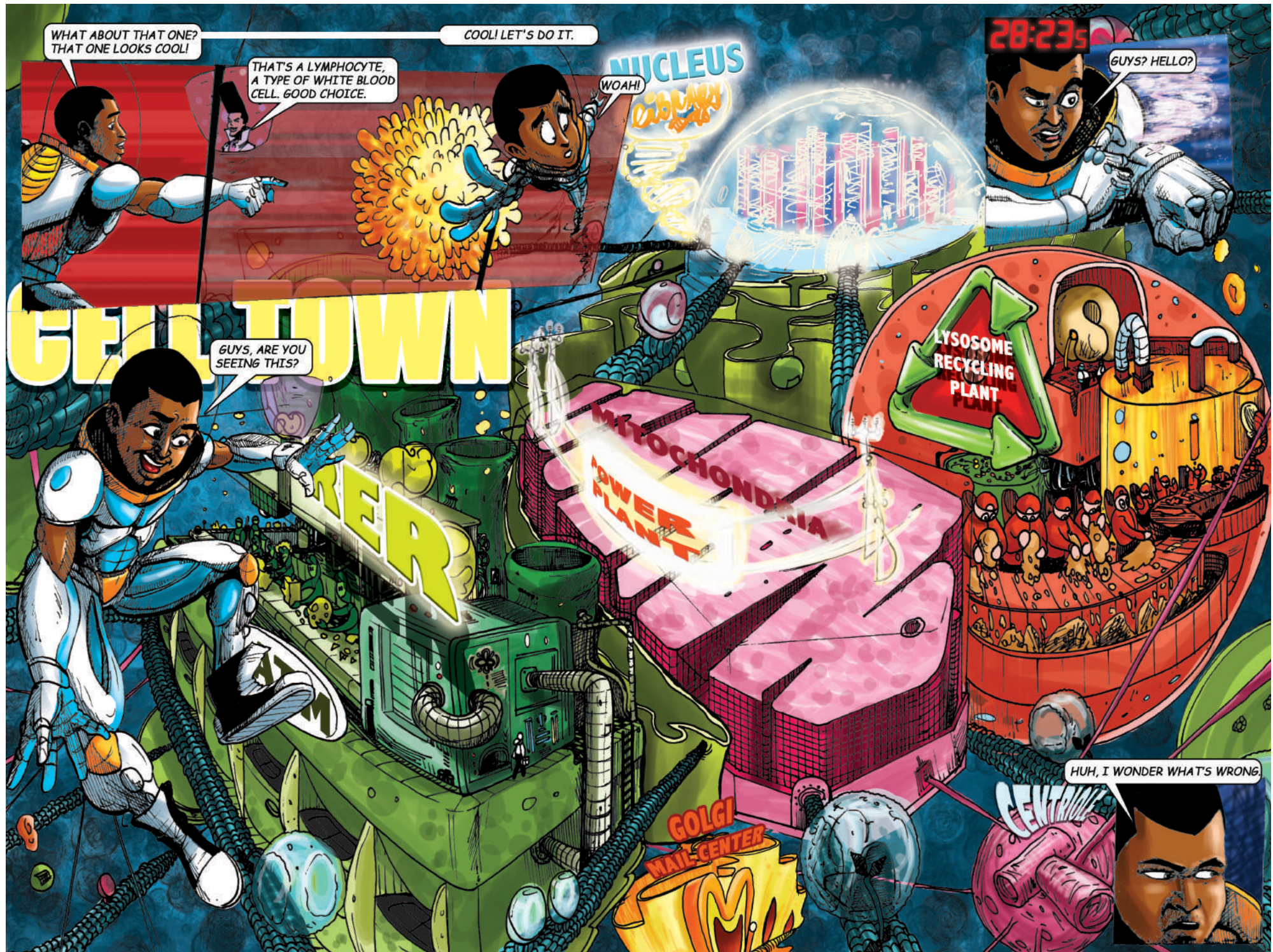
LYSOSOME  
RECYCLING  
PLANT

MITOCHONDRIA  
POWER  
PLANT

GOLGI  
MAIL-CENTER

HUH, I WONDER WHAT'S WRONG.

CENTRIOL







# PAY ATTENTION

1. Terminology

2. Misconceptions

3. Ethics: e.g. coercion

4. Culture and societal values

# Acknowledgements

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<https://mesh.tghn.org/articles/reflections-and-learning-genome-adventures/>

[http://www.botswanabaylor.org/genome\\_adventures.html](http://www.botswanabaylor.org/genome_adventures.html)

Thank You!

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