

EVERY
CELL HAS
A JOB.
EVERY JOB
KEEPS YOU
STRONG!

JACK AND THE AMAZING CELL CITY

A STORY ABOUT COURAGE, TEAMWORK
AND MILLIONS OF TINY HEROES.



RED BLOOD CELL
Delivers oxygen
throughout
the body!



PLATELET
Stops bleeding
and helps
healing!



WHITE BLOOD CELL
Defends the body
against germs!



CELL LEADER
Keeps everyone organized
and the city running!



CELL WORKERS
Build, repair
and
keep things
running!

Jack and the Amazing Cell City

**A STORY ABOUT COURAGE, TEAMWORK
AND MILLIONS OF TINY HEROES.**



Jack loved
superheroes.



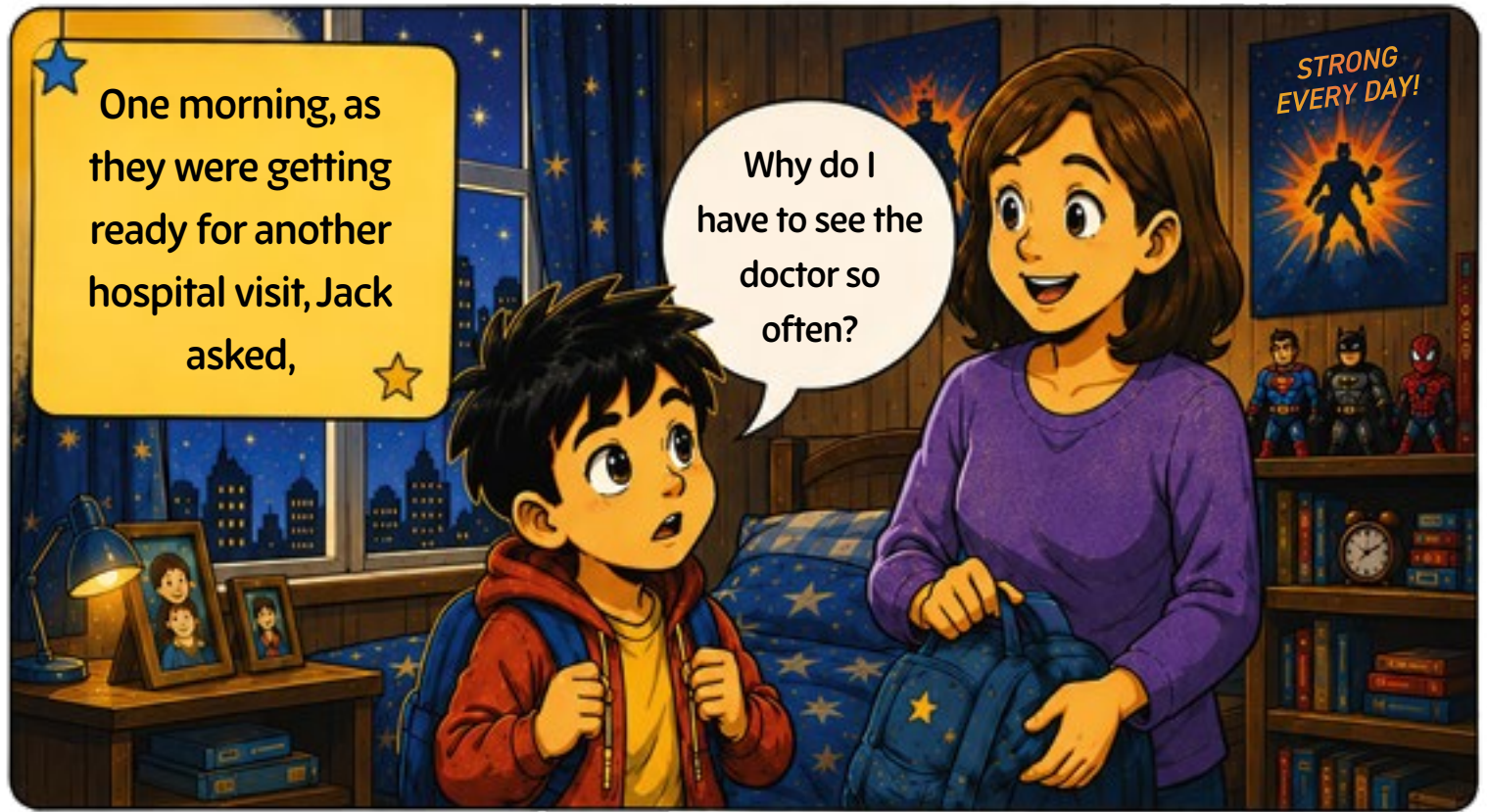
He could spend hours reading comic books
and imagining incredible adventures.

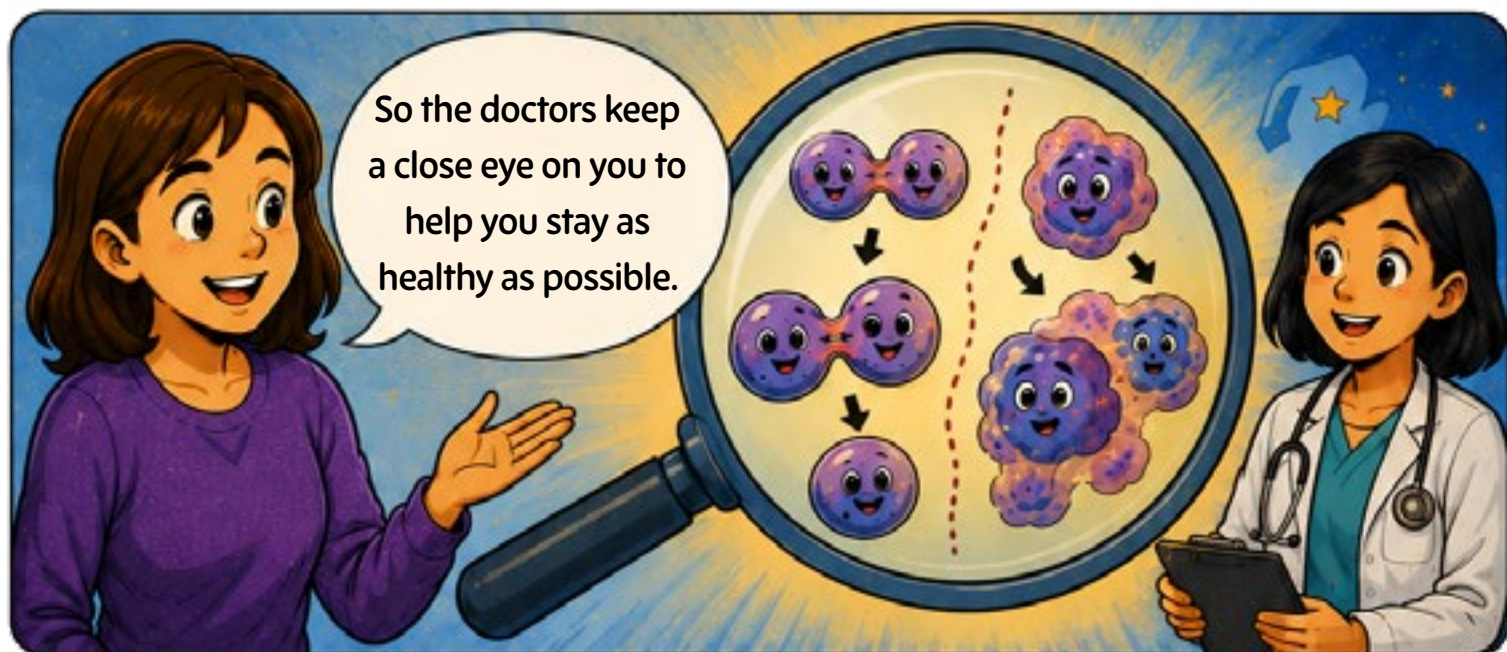


Sometimes he wondered...



"If I had a superpower,
what would it be?"







That evening, Jack fell
asleep thinking about
his body.



If it was made of
trillions of tiny cells...



What were they
doing all day?





★ Jack opened his eyes. He was standing in front of a huge shining city.



★ Tiny trains rushed by.



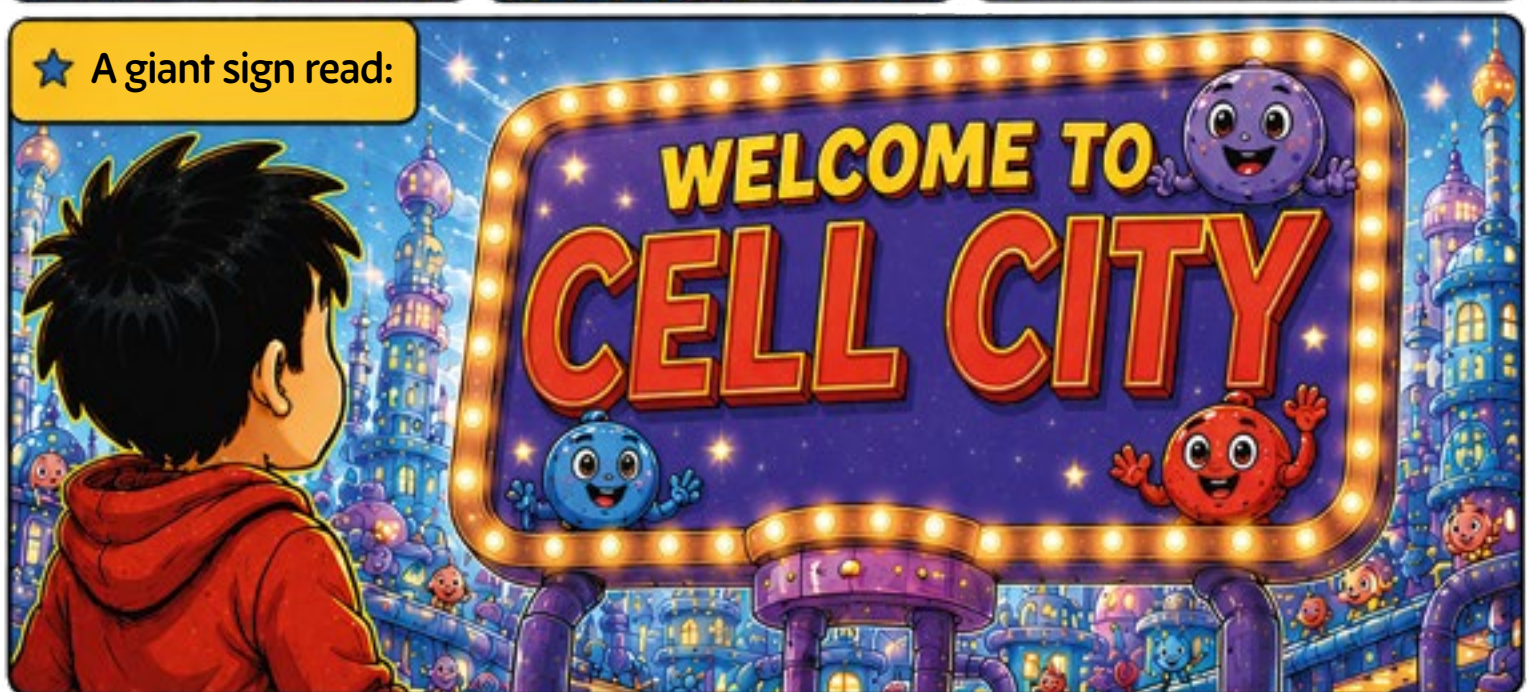
★ Flying delivery drones crossed the sky.



★ Bright towers sparkled in every direction.



★ A giant sign read:



★ A little captain wearing a blue helmet hurried toward him. ★

Captain Jack!

★ Jack looked around. ★

Who... me?

Of course! she laughed.

I'm **Captain Cora**. We've been waiting for you.

★ As Jack walked through the city, he couldn't believe his eyes. ★



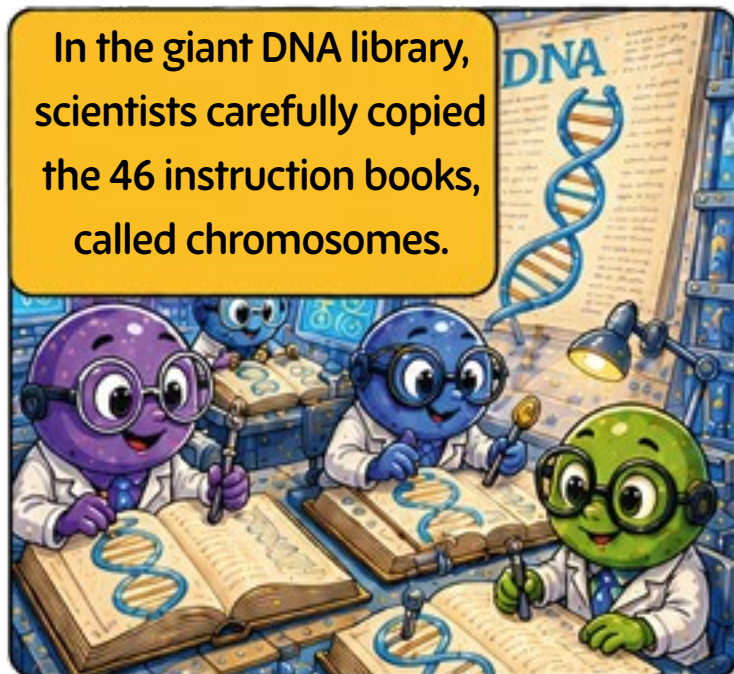
★ Builders were repairing tiny bridges.



★ Messengers delivered important packages.



In the giant DNA library, scientists carefully copied the 46 instruction books, called chromosomes.



★ Everyone had a job.



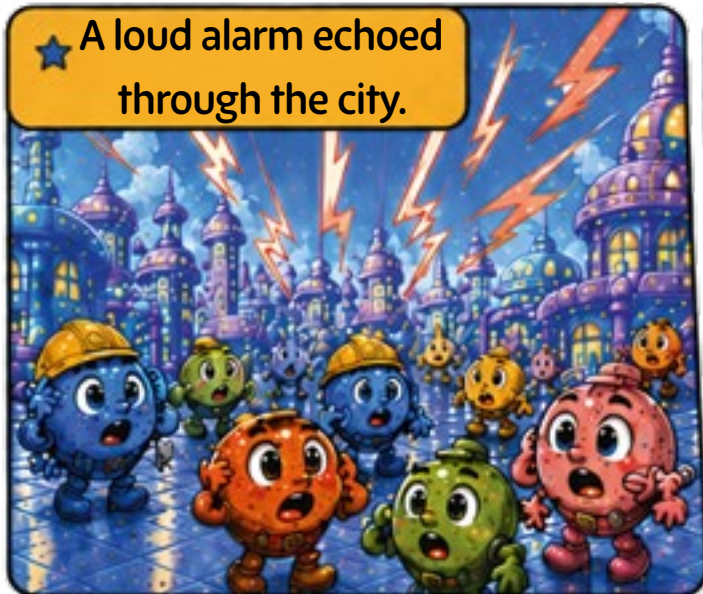


★ Suddenly...

**WEEEEOOO!
WEEEEOOO!**



★ A loud alarm echoed through the city.



★ The workers stopped.



What happened?



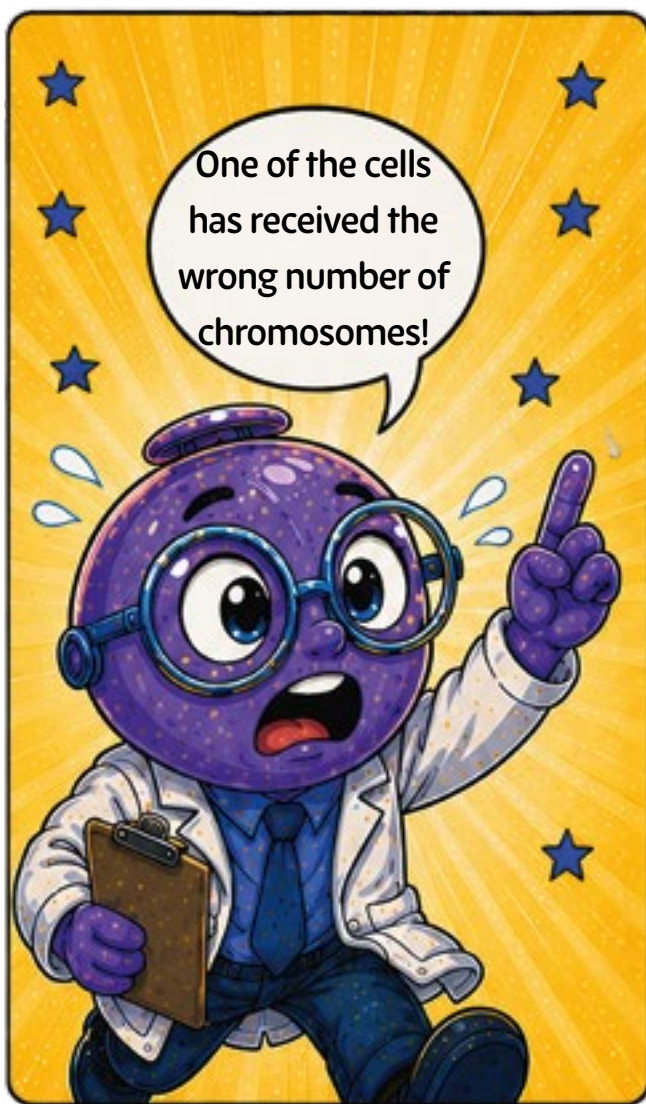
★ A tiny scientist
ran toward Cora.

We've got
a problem in the
Division Center!

CELL
CITY

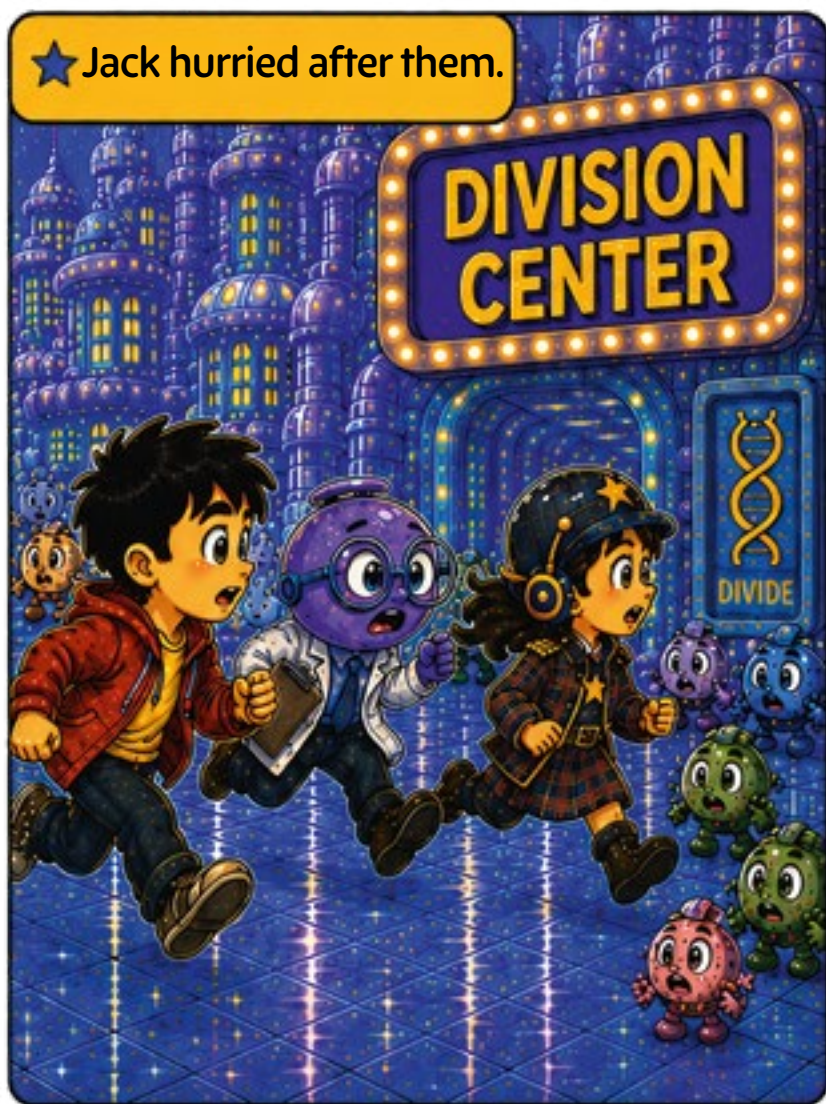


One of the cells
has received the
wrong number of
chromosomes!



★ Jack hurried after them.

DIVISION
CENTER



★ Inside the Division Center, two new cells had just been created.



★ One had too many chromosomes.



★ The other had too few.



★ The workers looked worried.



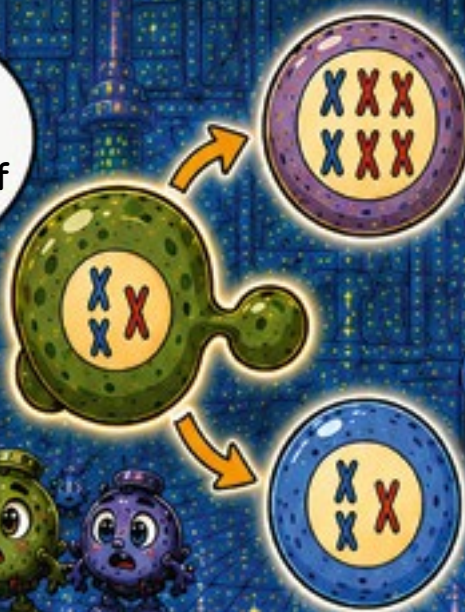


Cora turned
to Jack.

DIVISION CENTER

This is what happens in
Mosaic Variegated Aneuploidy
syndrome, or MVA.

Sometimes, when cells
divide, they accidentally
receive the wrong number of
chromosomes.



It isn't
anyone's fault.

It just
happens.

★ Jack looked at the little cells.

Are they okay?

DIVISION CENTER

DIVISION
IN PROGRESS



They're
doing their
very best.

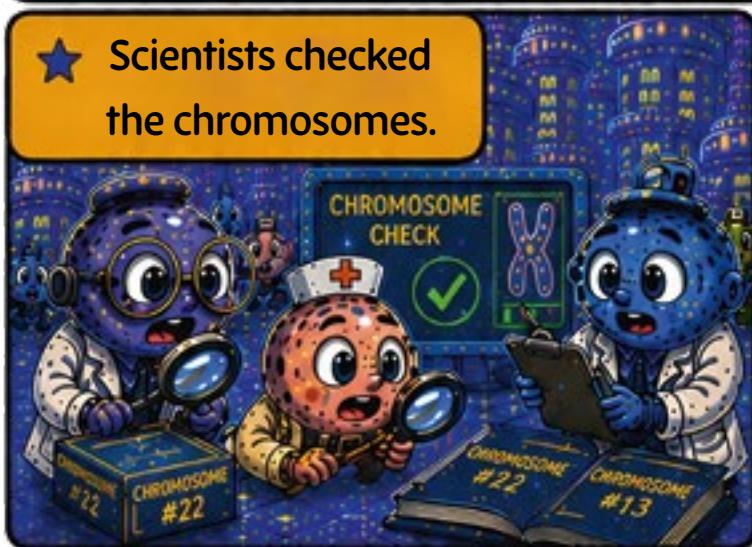
Some of them
just work a little
differently.



★ Within seconds,
Cell City's Care
Team arrived.

CELL CITY CARE TEAM

★ Scientists checked
the chromosomes.



★ Every cell knew
exactly what to do.



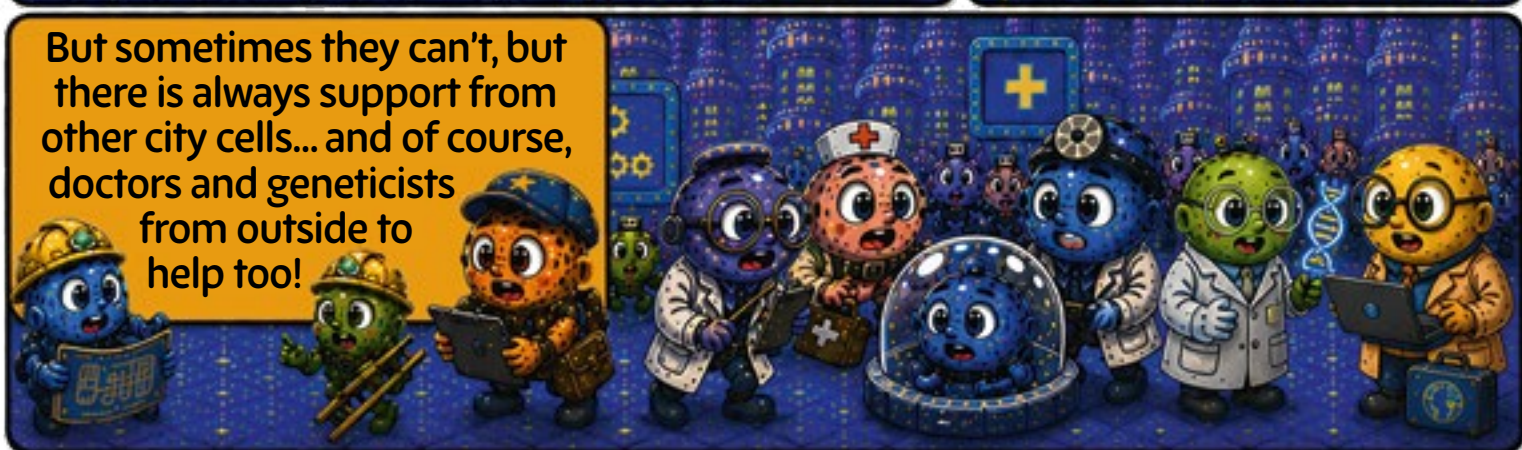
★ Everyone worked
together.



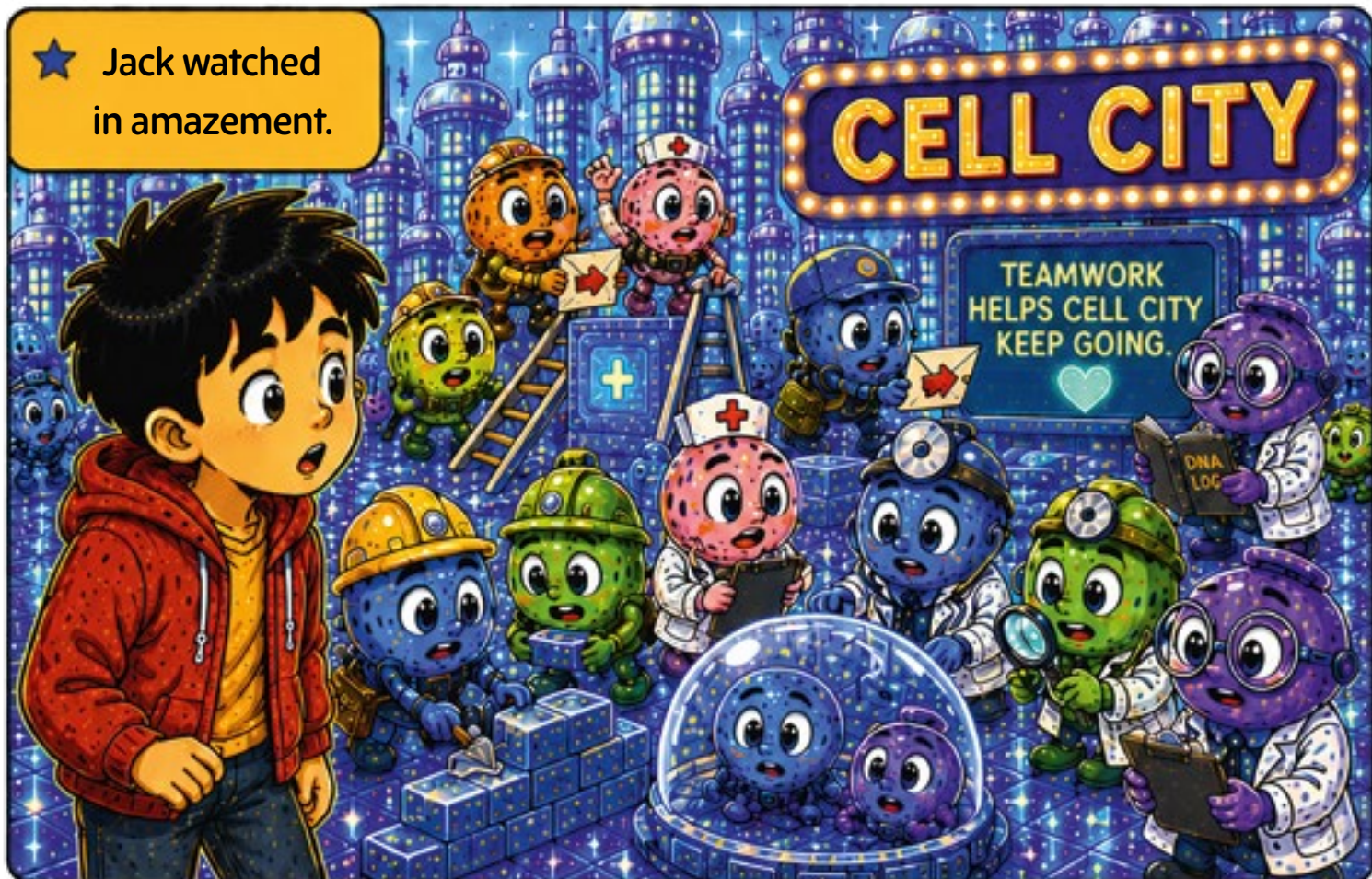
★ Sometimes faulty
cells can be replaced.



But sometimes they can't, but
there is always support from
other city cells...and of course,
doctors and geneticists
from outside to
help too!



★ Jack watched
in amazement.



No one
works alone.



★ Cora nodded.

No superhero
succeeds alone.



Cell City has its
own Care Team.





★ My mum helps me.



★ My dad helps me.



★ My teachers help me.



★ My doctors help me.



★ My nurses help me.



★ My friends help me too.



And every hospital visit helps us.



When you come to the hospital, your doctors aren't trying to change who you are. They're checking how Cell City is doing, so they can help you stay as healthy as possible.



★ Jack had never imagined it that way.



Some days, the city
worked a little bit more
slowly.



Some jobs
take longer.



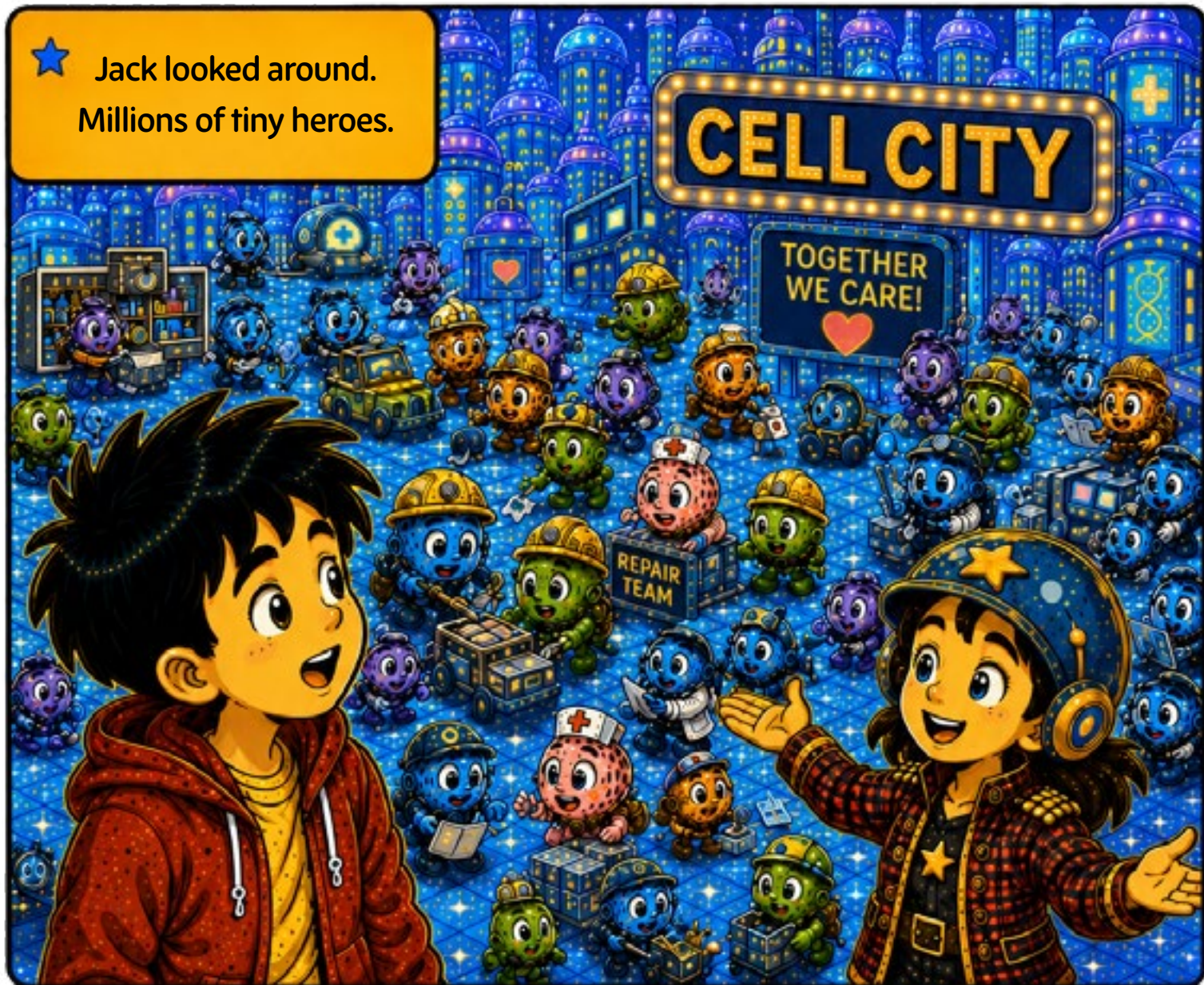
Some workers needed
extra support.



But they never
give up!



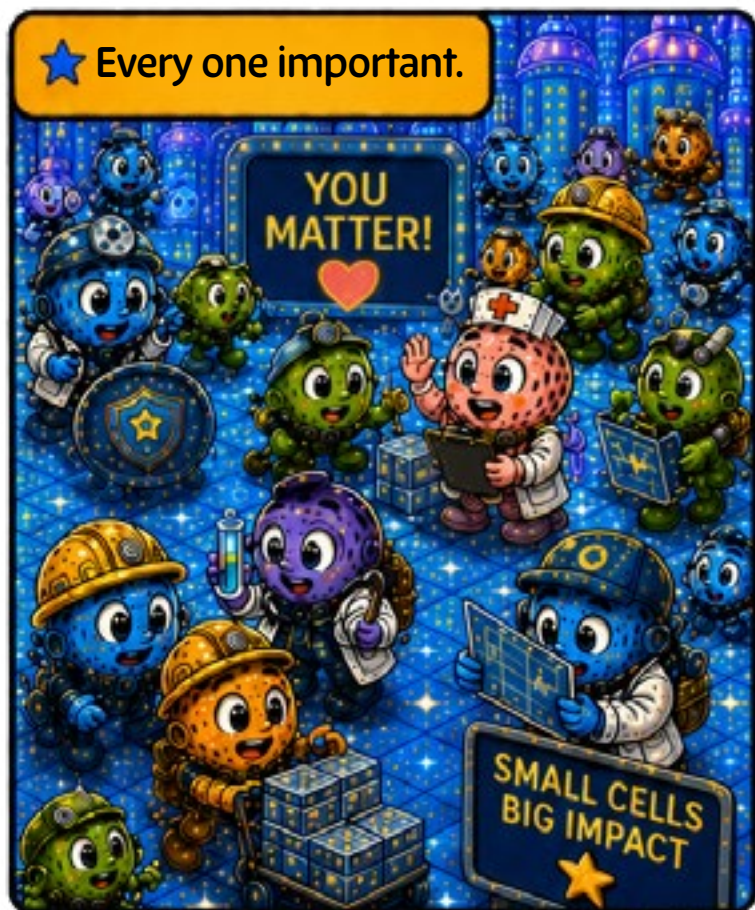
★ Jack looked around.
Millions of tiny heroes.



★ Every one different.



★ Every one important.





When you
rest...



When you eat
healthy food...



When you tell
someone you
don't feel well...



When you come to
your check-ups...



You're helping
your whole city.



★ Jack stood
a little taller.

CELL CITY

TEAMWORK
MAKES US
STRONG

TOGETHER
WE PROTECT
CELL CITY

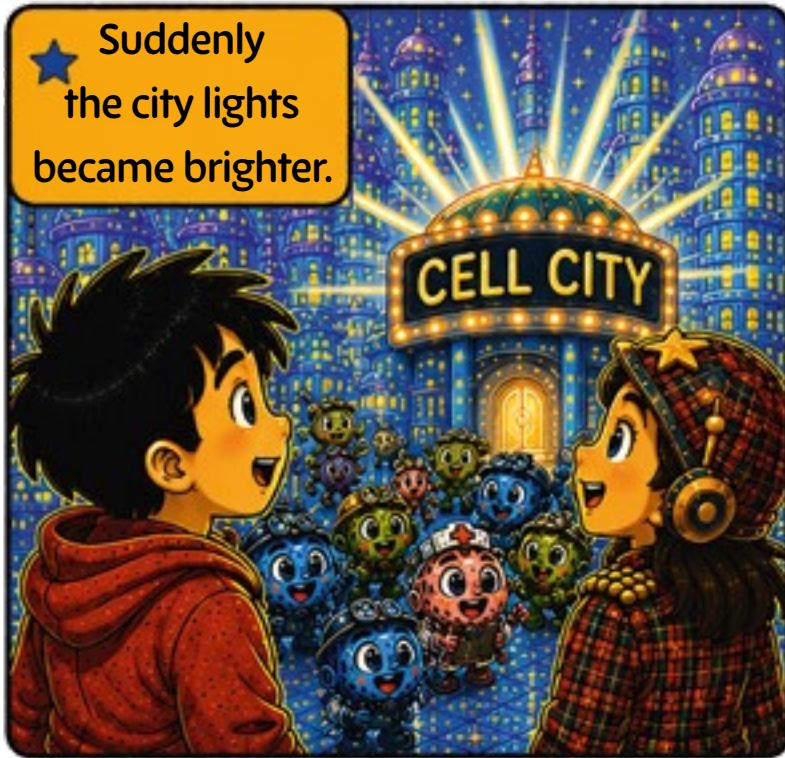
So... I'm
part of the
team too?

YOU
BELONG
HERE

The
Captain.

EVERY
CAPTAIN
MATTERS

★ Suddenly
the city lights
became brighter.



★ The workers
cheered.



★ The Division Center
was safe again.



★ Another day.



★ Another
mission completed.



It's time for you
to go home.

CELL CITY

THANK YOU,
JACK!

★ Jack looked
disappointed.

WE'LL
MISS
YOU!

Will I ever see
Cell City again?

★ Cora winked.

CELL CITY

YOU'RE
NEVER
ALONE!
❤️

You don't
have to.

WE'VE GOT
THIS!
❤️

We're
always
here.

ALWAYS
HERE FOR
YOU
❤️

Working.

Growing.

NEW CELLS,
NEW LIFE.
❤️

Helping.

Looking
after you.

WE CARE
ABOUT YOU
❤️



The city slowly faded away.



Jack opened his eyes.



Morning sunlight filled his room.



Had it all been
a dream?



At school,
Jack proudly
told his friends,

“My body has
millions of tiny
superheroes inside
it.”



His friends laughed.



Really?



Jack
smiled.



Really.

A few days later,
it was time for
another hospital
visit.



For the first time...



Jack wasn't
nervous.





As he walked through the hospital doors, he imagined Captain Cora and all the tiny workers waving.



Good luck, Captain Jack!





Jack still had MVA.

He would still need
check-ups.



He would still have
difficult days sometimes.



But now he understood
something important.



He was not
just his diagnosis.

He was strong.

He was brave.

He was growing.

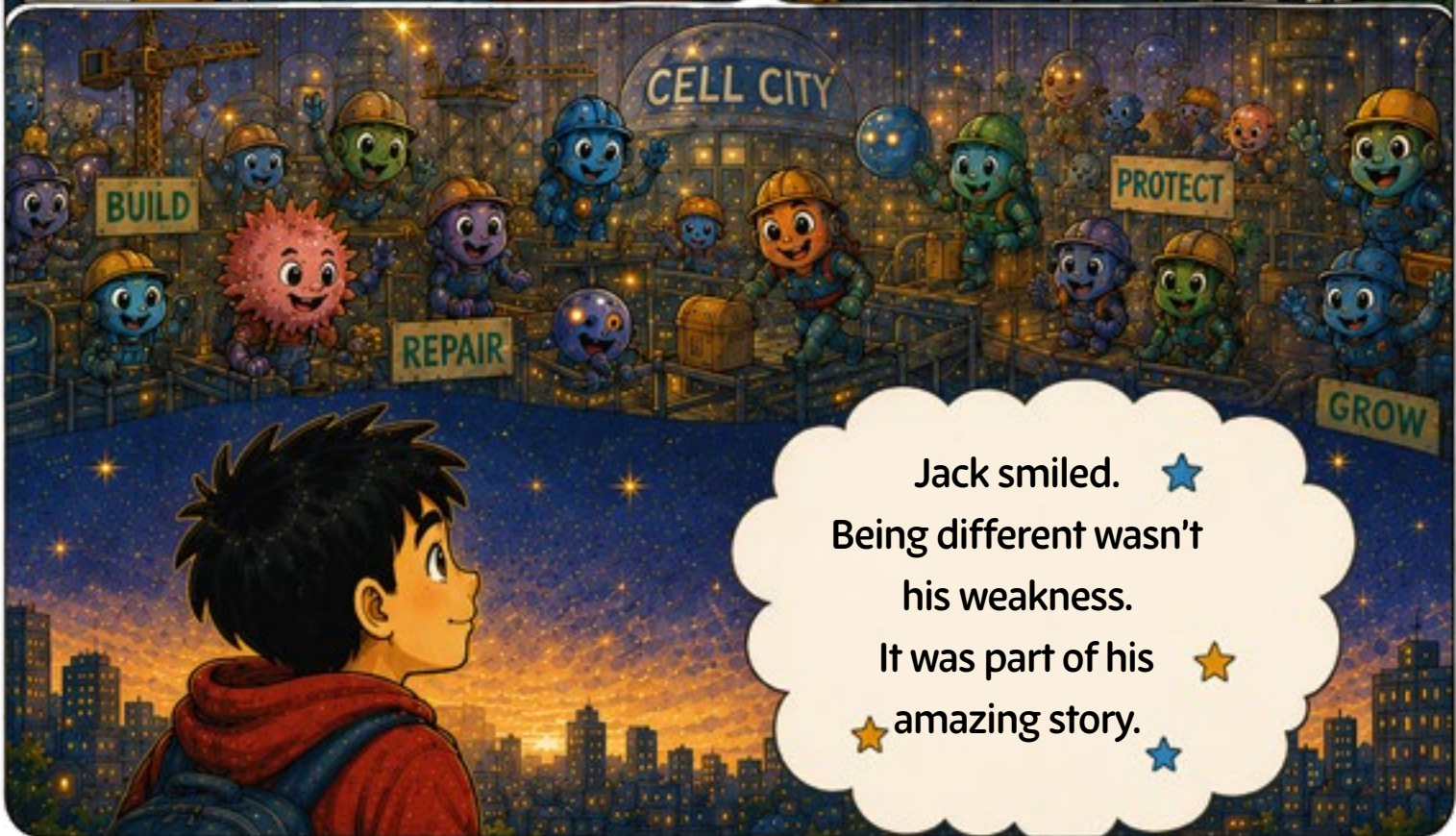
And he had a whole
team inside
him.



Every superhero
has a team.

- ★ Jack's team
was made of
- ★ his family... his
doctors... his
- ★ friends... ★

...and trillions of tiny
cells working together
every single day.



Jack smiled. ★
Being different wasn't
his weakness.
It was part of his ★
★ amazing story. ★

About Mosaic Variegated Aneuploidy (MVA)

Mosaic Variegated Aneuploidy (MVA), also known as PCS/MVA syndrome, is an ultra-rare genetic disorder caused by biallelic mutations most commonly in the BUB1B gene, though other genes such as CEP57 and TRIP13 can also be responsible. These genes are involved in the mitotic checkpoint that ensures chromosomes separate correctly during cell division; when this checkpoint fails, cells end up with the wrong number of chromosomes in a mosaic pattern across the body. Clinically, MVA is characterized by microcephaly (small head), developmental delay, epileptic seizures, generalised hypotonia, increased risk of respiratory infections, and both prenatal and postnatal growth restriction, alongside a significantly increased risk of childhood cancers such as rhabdomyosarcoma, Wilms tumour, and leukaemia. It is inherited in an autosomal recessive pattern, meaning both parents are typically unaffected carriers, with each sibling of an affected child facing a 25% recurrence risk. Because so few cases have been documented worldwide, awareness, research, and family support remain critical priorities.

About the MVA Society

The MVA Society was formed in November 2024. The Society is the first, and currently only organisation focused on MVA – an ultra-rare genetic disorder. It was formed by Jonathan Bracey after his son George was diagnosed with this condition in 2023. The Society has one clear aim – to find a treatment for this condition. To find a treatment, two things must happen – we have to conduct targeted research, which needs to be funded. And we have to build out our 'ecosystem' (or footprint) to increase our global reach to patients, families, doctors, scientists, industry and publications that are involved with or touch on this condition. We need to make MVA known across the globe so families and patients have a place to gather, and physicians and geneticists have a place to point them to. It also will act as a global centre of excellence for all things related to MVA.

Website: mvasociety.org



About Fondation Ipsen Rare Intelligence

Fondation Ipsen Rare Intelligence program develops and distributes free educational resources on rare diseases. The program uses artificial intelligence to transform validated scientific data into accessible content tailored to different audiences.

Developed in collaboration with patient organizations and experts in the relevant fields, these resources undergo human post-editing, review, and validation prior to publication. The ambition is to provide patients, families, healthcare professionals, teachers, and associations with reliable, inclusive, and accessible resources for every rare disease, including the rarest.

Website: www.fondation-ipsen.org



Download our pedagogical kit on MVA here





Book # 21.4

Have your
say!

ISBN: 978-2-38427-406-2 (print)/ 978-2-38427-407-9 (ePub)

Fondation Ipsen Rare Intelligence program, 2026

Fondation Ipsen is placed under the aegis of Fondation de France

AI-generated text and illustrations: Chian-Harn Yu

Scientific editing: Dr Jan Cobben (ICHT & Imperial College London), Dr Sharon Jheeta (Imperial College London NHS Trust), Dr Eleanor Seaby (Imperial College London), under the supervision of Jonathan Bracey (MVA Society)

Editorial direction: Céline Colombier-Maffre

Act No 49-956 of 16 July 1949 on publications for young people,
amended by Act No. 2011-525 of 17 May 2011.

Legal deposit: September 2026

Printed in France by ScriptLaser, Paris, September 2026

ePub conversion: www.primento.com

Free book - not for sale

Jack loves superheroes. But when he learns that he has Mosaic Variegated Aneuploidy syndrome, or MVA, he has a lot of questions about what is happening inside his body.

One night, Jack discovers Cell City, an extraordinary world where millions of tiny cells work together to keep everything running.

There, he begins to understand why some of his cells work differently, why regular check-ups are important, and, above all, why no superhero ever works alone.

Jack and the Amazing Cell City is a story about MVA, but also about courage, teamwork and discovering that being different is just one part of what makes each of us who we are.

Because every cell has a job. Every job matters.
And every child has a team.

With the kind collaboration of the



Book # 21.4
Have your
say!



ISBN:
978-2-38427-406-2 (print)
978-2-38427-407-9 (ePub)

Free book - not for sale