When Snow White Awakes:
The Hidden Signal Inside Her Glass Coffin

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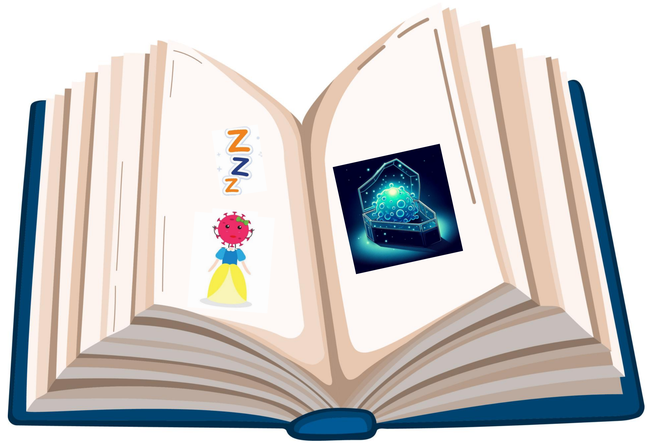
NATIONWIDE CHILDREN'S
When your child needs a hospital, everything matters.

Once Upon a Time

Millions of years ago,
ancient viruses left traces of their **DNA** inside ours.
These viral fossils,
called **Human Endogenous Retroviruses (HERVs),**
now make up almost 8% of the human genome.
Most remain **"asleep"**,
safely locked inside the
nucleus – the cell's glass coffin.



"Sleeping DNA inside a glass coffin.
The fairy-tale version of our genome"

The Characters

HERVs

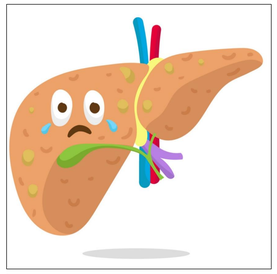
Scientist

Bioinformatician

A Whisper from Chromosome 17

Using a **computational tool (our lab's "magic mirror")**
we analyzed **RNA** from childhood liver tumors
(hepatoblastomas).
Among all 23 chromosomes,
one region stood out – **17p13.1** –
glowing with unusually high activity.
This "wake-up signal" may mean that
HERVs in this region become active again,
and affect how cancer cells behave.
"Snow White" might be stirring.

RNA sequencing



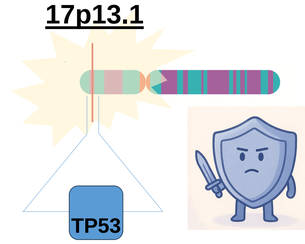
Hepatoblastoma

"RNA-seq reveals **chromosome 17**
(**full address = 17p13.1**) –
The **loudest voice** in a sleeping genome."

Unlocking the Coffin from Within

At the genome address **17p13.1**,
the guardian **TP53** keeps the cell's DNA safe.
In hepatoblastomas, this region glows with
unexpected **HERV activity**.
Could these viral whispers
disrupt **TP53's** watch?
If these viral sequences "wake up",
they may interfere with TP53,
the cell's safety guardian,
possibly helping tumors grow.
We are uncovering how
HERV awakening at **17p13.1** may alter
TP53's control and
what that means for childhood cancer.

17p13.1



Tumor suppressor gene

"**17p13.1**, the location where Snow White meets
the genome's guardian **TP53** "

STILL NOT THE END!
Keep tuned for the next chapter of our story!

Her HERV's Lab

Who we are!

Reference

Funding

1) Startup Award, Department of Pediatric Surgery, NCH
2) Pilot Intramural Funding Award, AWRI at NCH

Acknowledgment

We thank our administrators, Maria Moauro, MPH, CPHQ (Abdominal Transplant) and Meagan Friend (CCTR) for their invaluable daily support.

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