HB

What Single-Cell Data Is Teaching Us About Cancer Evolution!

- The Tumor Microenvironment (TME)
- Power of Single-Cell Technologies
- Lessons from Single-Cell Data
- Spatial and Temporal Insights
- Computational & AI Advances

HB

What Single-Cell Data Is Teaching Us About Cancer Evolution

- Cancer isn't just one kind of cell — it's a mix of many.
- Some cells grow fast, some hide, and some resist drugs.
- To truly understand cancer, we need to see what each cell is doing.

HB

What Single-Cell Data Is Teaching Us About Cancer Evolution

Single-cell RNA-seq lets us study one cell at a time.

It tells us which genes are active in every single cell.

Suddenly, we can see how each cell behaves inside a tumor.

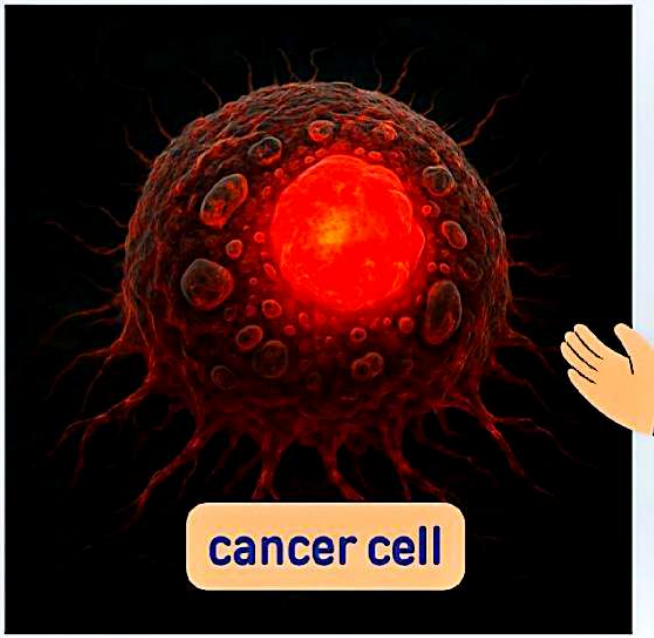
HB

What Single-Cell Data Is Teaching Us About Cancer Evolution

When scientists used bulk data, all cells looked the same.

But single-cell studies revealed huge differences.

Some cells act like “leaders,” others “followers”, all shaping how cancer grows.



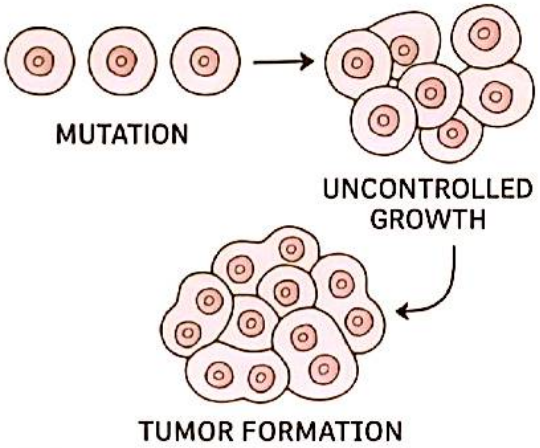
What Single-Cell Data Is Teaching Us About Cancer Evolution

Watching Cancer Evolve.....

Over time, some cells change to survive stress or treatment.

Single-cell data helps us trace these changes step by step

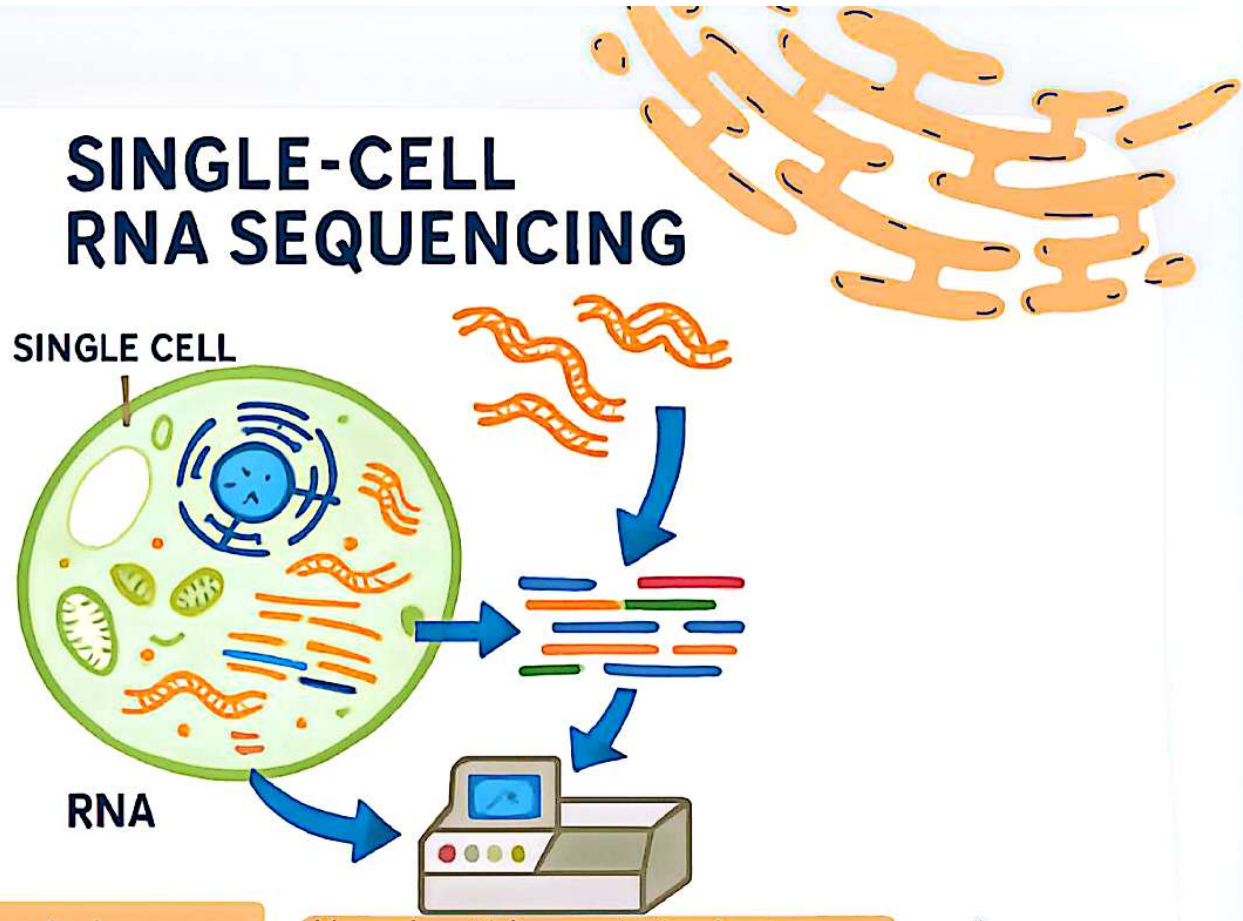
It's like watching evolution happen inside the body



HB

What Single-Cell Data Is Teaching Us About Cancer Evolution

Why Some Cells Resist Treatment?



A few rare cells can survive chemotherapy or immune attack.

Single-cell RNA-seq helps us spot these “survivor” cells early.

Knowing this can help doctors design better treatment plans.

HB

What Single-Cell Data Is Teaching Us About Cancer Evolution

What This Means for the Future

- Single-cell studies are teaching us how cancers grow, adapt, and fight back.
- This knowledge can guide new drugs and personalized care.
- One cell at a time, we're learning how to stay a step ahead of cancer.

What Single-Cell Data Is Teaching Us About Cancer Evolution

For more on the review, visit the link below to read the full draft.