ABNORMAL ACTIN in the brain → Makes Cancer WORSE?

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BACKGROUND:

*Actin = the cell's bones/skeleton

Cancerous brain cells | Normal actin | Chemotherapy | Cancer cell dies

(Diaz et *al.*, 2015)
(Faria et *al.*, 2015)

BUT…

Cancerous cell | Abnormal actin (aka. ACTC1) | Chemotherapy | Cancer cell doesn't die

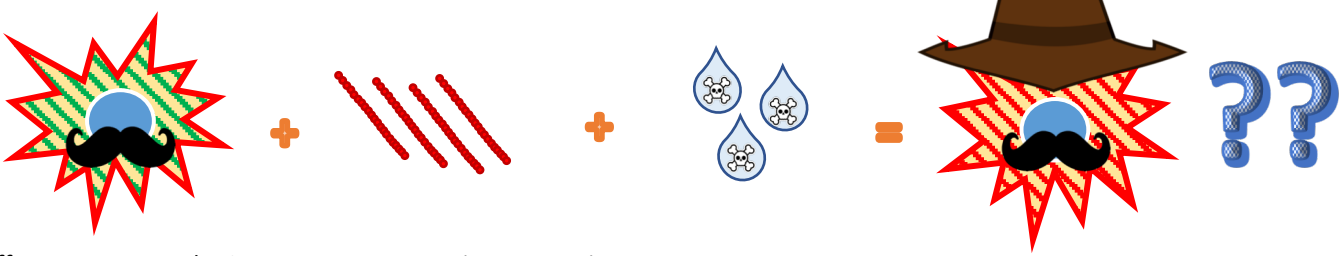
(Che et *al.*, 2013)
(Yang et *al.*, 2018)

WHAT WE ARE TRYING TO FIND OUT:

1.

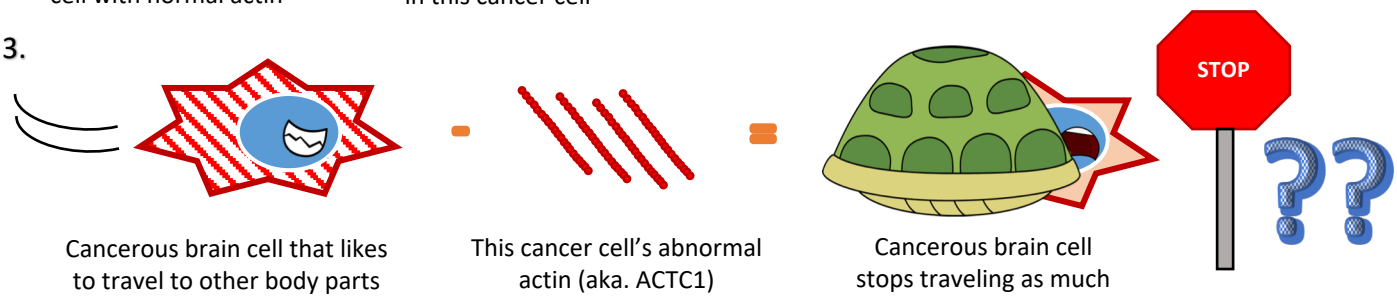
Cancerous brain cell with lots of ACTC1 | Cancer cell's abnormal actin (aka. ACTC1) | Chemotherapy | Kills the cancer cell

2.



Different cancerous brain cell with normal actin | Abnormal actin (aka. ACTC1) in this cancer cell | Chemotherapy | Cancer cell doesn't die

3.



Cancerous brain cell that likes to travel to other body parts | This cancer cell's abnormal actin (aka. ACTC1) | Cancerous brain cell stops traveling as much

ULTIMATELY WE THINK…

ABNORMAL ACTIN in the brain → Makes Cancer WORSE.

IMPORTANCE: We need to find aspects of cancer that make them hard to treat in order to develop more effective treatments.

LIMITATION: To kill the brain cancer cell, you will have to get rid of its ACTC1. ***BUT…***

ACTC1 is important for other NORMAL cells of the body (like those in the heart).

So how do we get rid of ACTC1 in just the brain and not the heart??

And why do brain cancer cells have ACTC1 in the first place?!

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