Imaging *Toxoplasma* and its world in the mouse brain

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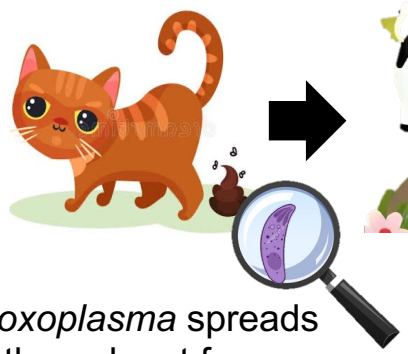
citizens of science

Background

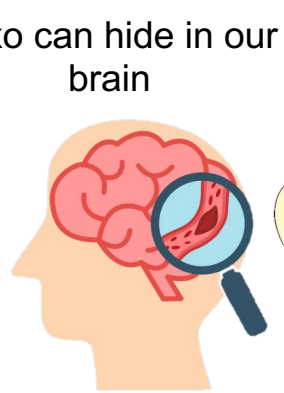


Toxoplasma spreads through cat feces



Toxoplasma can infect warm blooded animals through contaminated water and meat, and affects around one-third of the world's human population

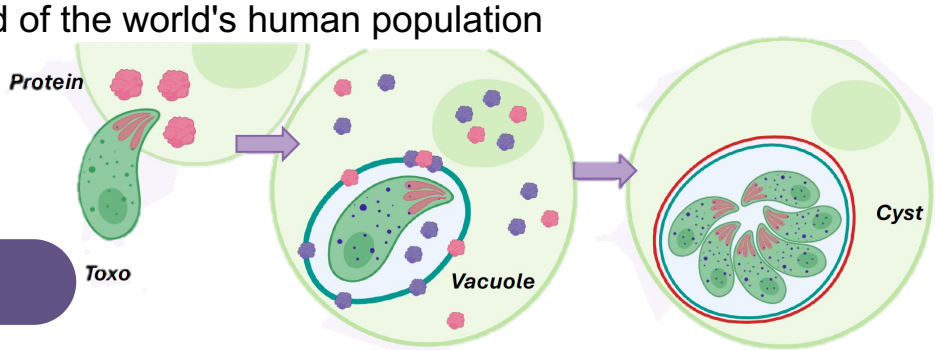




Toxo can hide in our brain

High risk for pregnant women and immune compromised patients





Toxo uses protein export to protect itself but it's still unvalidated in the mouse



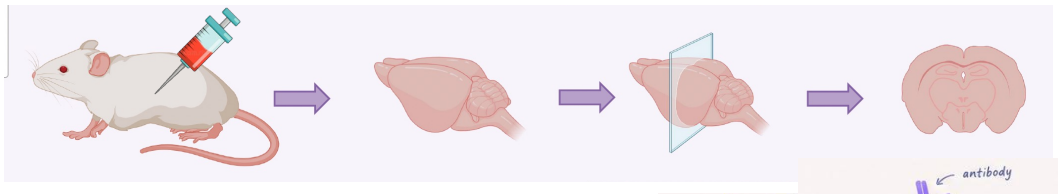
Question & Aim

Does Toxo continue exporting protein to protect themselves?

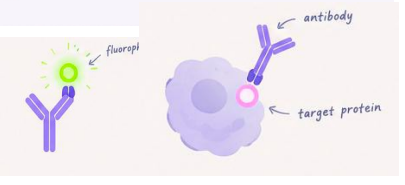
Investigating Toxo, its exported proteins and infected cells in the mouse brain

Methods

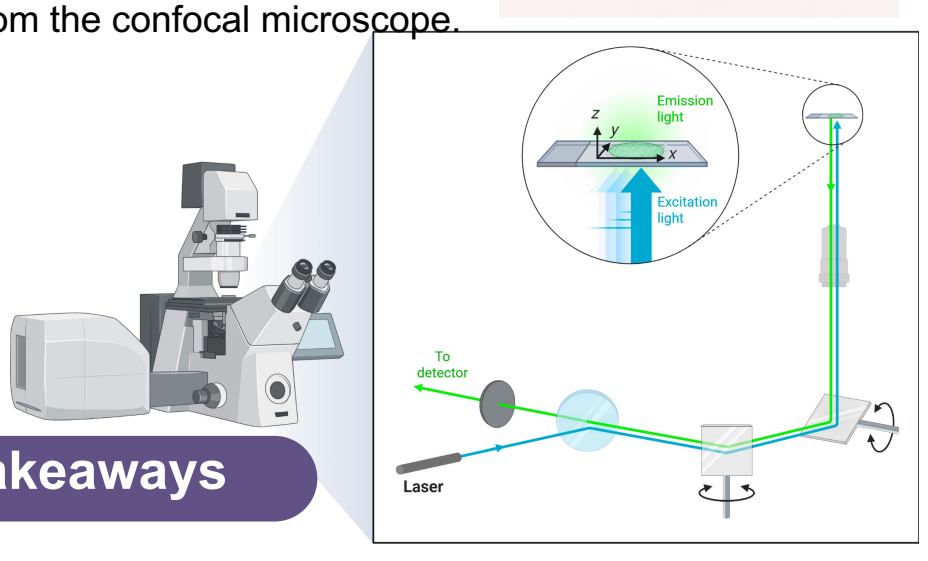
- Infect the mouse with Toxo.
- Get mouse brain section.



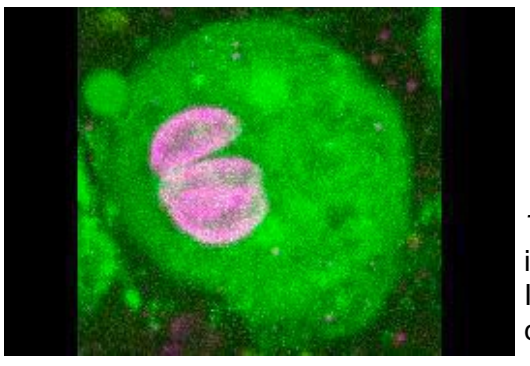
- Giving specific antibody to brain sections.



- Observe from the confocal microscope.

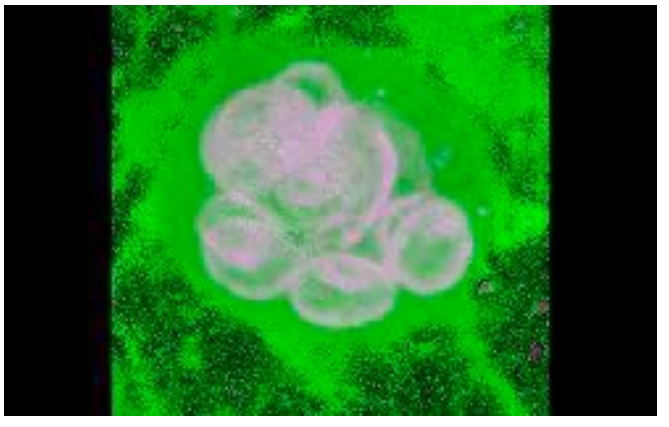


Results



Toxoplasma is in magenta; Infected brain cell is in Green

Banana shape Toxo in a mouse brain cell



Toxo is forming a cyst in a mouse brain cell

Key Takeaways

- Using fluorophores, antibodies and the confocal microscope, we can make Toxo visible in the mouse brain
- Knowing how toxoplasma hide in our brain is important to flush them out from our body and find a better treatment in the future.