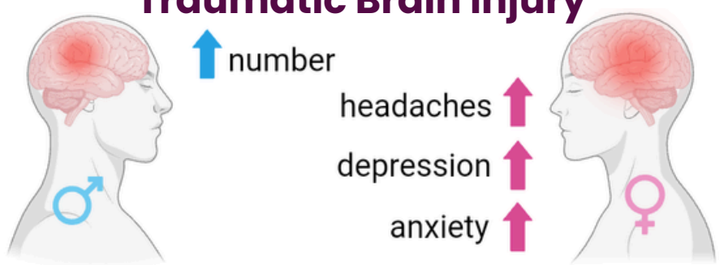
Understanding the Role of Sex in Inflammation After Traumatic Brain Injury

Background



Traumatic Brain Injury



- Symptoms are caused by inflammation in the brain.
- Immune cells in the brain control this inflammation.



Hypothesis

Female brain immune cells cause more inflammation after traumatic brain injury than male brain immune cells.

Aims

- Aim 1: How are brain immune cells different in healthy male and female mice?
- Aim 2: How do brain immune cells react differently to brain injury in male and female mice?

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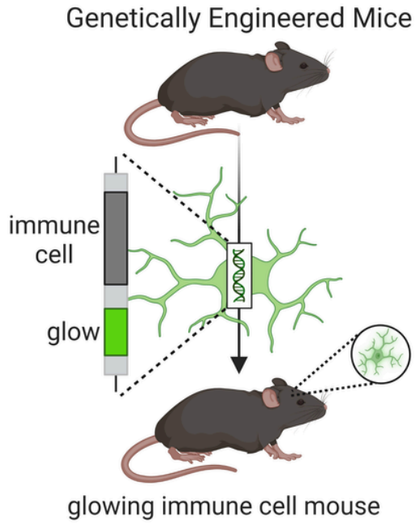
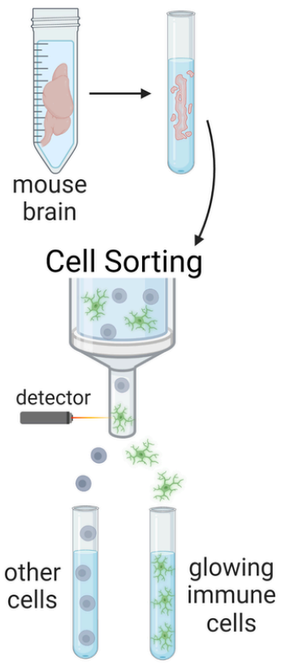
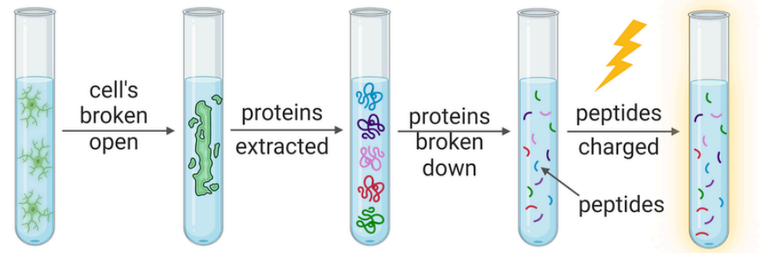
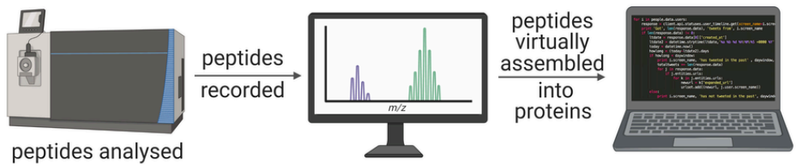
Methods







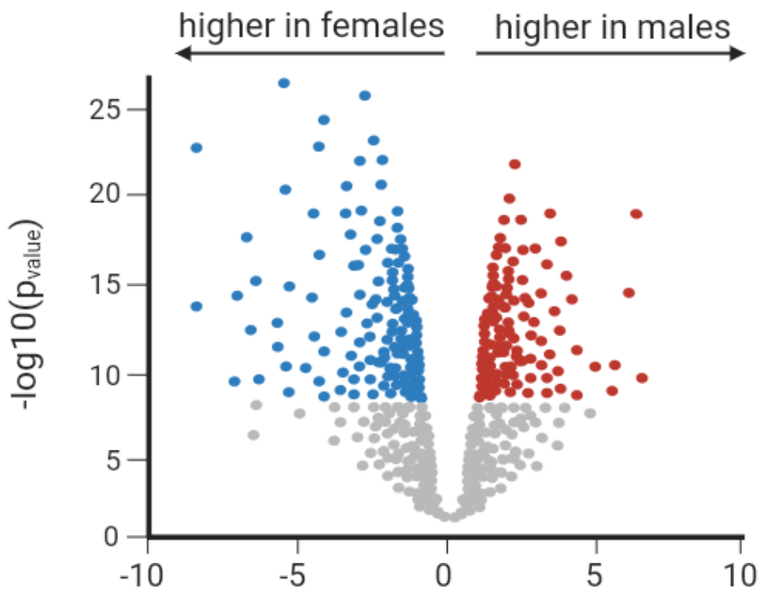


Key Takeaways

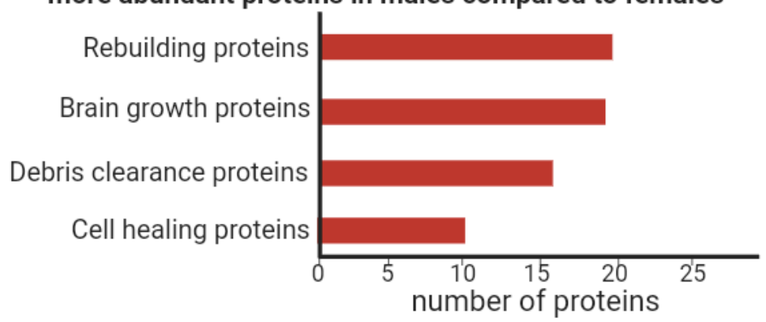
- Females often experience more symptoms for a longer period of time after brain injury.
- Symptoms are caused by inflammation in the brain, and this is regulated by brain immune cells.
- Females could experience worse symtoms because their immune cells cause more inflammation after brain injury than males' immune cells.

Hypothetical Results

If the hypothesis is true, these are the results we'd expect to see. Real results will be published May 2027.



more abundant proteins in males compared to females



more abundant proteins in females compared to males

