

The First Infection – Genesis Biotech Incident Report

- **Transmission Received:** Dr. Evelyn Cross – Urgent Report
 - **Location:** Genesis Biotech Underground Research Facility – Sector 3
 - **Date:** Classified
 - **Status:** Emergency Lockdown
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BACKGROUND: PROJECT LAZARUS – CLASSIFIED INCIDENT REPORT 🚨

"If you're receiving this... that means I'm still alive. For now. My name is Dr. Evelyn Cross, and I was one of the lead researchers on Project Lazarus. We thought we were building the future—developing a virus capable of rewriting genetic code to heal the human body. But we were wrong. Terribly wrong."

"It started with Patient Zero. A volunteer. Healthy. Young. No pre-existing conditions. We administered the Lazarus Virus prototype expecting enhanced regeneration. Instead, we triggered something monstrous. Within hours, his temperature spiked to 106°F, his pupils dilated until his irises disappeared, and his blood chemistry... changed. He wasn't healing—he was rewiring. His enzymes began breaking down his own tissue while lipids and proteins were repurposed at an accelerated rate. We thought we could stop it—but it was already too late."

"By the time security intervened, Patient Zero was unrecognizable. His movements were erratic, his pulse had nearly vanished, and his body—deprived of glucose—had begun targeting alternative energy sources. His immune system no longer recognized itself. Then he turned violent. He attacked the medical staff, spreading the virus instantly. Within minutes, half the research team had symptoms. The infection rate was exponential. I was lucky enough to seal myself inside the security chamber before the facility went into full lockdown."

"Now I'm the only one left. But I have one last chance to fix this before it escapes the lab and reaches the outside world. I need you to analyze my last collected data—the key to understanding how the Lazarus Virus manipulates macromolecules, enzymes, and the human body. If we can pinpoint what fuels the virus, we might be able to stop it."

"You don't have much time. They're outside. Scratching at the doors. You need to find the answer... before it's too late."

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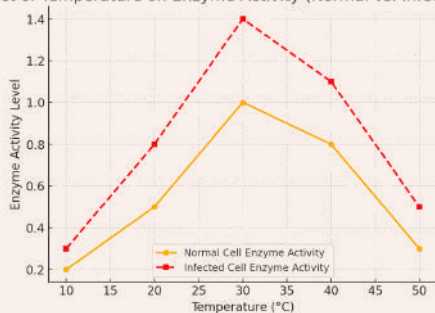
Lab Test #1: Macromolecule Breakdown (Blood Sample Analysis)

- Healthy human cells show 50% carbohydrates, 20% lipids, 25% proteins, and 5% nucleic acids.
- Infected cells show drastic reductions in carbohydrates and an increase in lipid and protein breakdown.
- Virus cells are composed of a much higher lipid percentage than human cells.

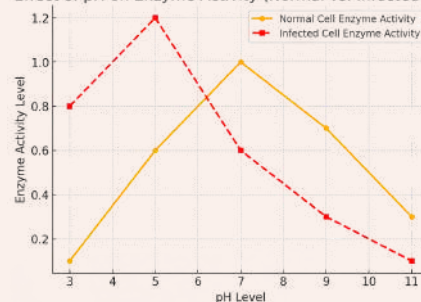
Lab Test #2: Enzyme Activity (Lazarus Virus Metabolic Analysis)

- The virus targets digestive enzymes, increasing their function while reducing metabolic control.
- The enzymes dissolve the body's own proteins and lipids, converting them into fuel for viral replication.
- pH levels inside infected cells are acidic, indicating extreme metabolic stress.

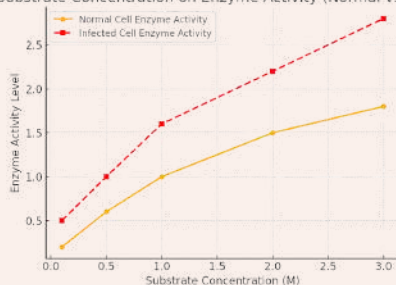
Effect of Temperature on Enzyme Activity (Normal vs. Infected Cells)



Effect of pH on Enzyme Activity (Normal vs. Infected Cells)



Effect of Substrate Concentration on Enzyme Activity (Normal vs. Infected Cells)



Lab Test #3: Organ System Response (Autopsy Report on Infected Subject)

- The immune system failed to detect infected cells as foreign.
- The nervous system showed severe degeneration, explaining erratic movements.
- The digestive system collapsed, no longer breaking down carbohydrates properly.

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Student Challenge: Lazarus Virus Biological Analysis Report

Dr. Cross's Last Transmission:

"I've isolated the data. Now it's up to you. How is the virus manipulating macromolecules and enzymes to survive? Why is the immune system failing? If we can identify what it's consuming and how, maybe we can cut off its fuel source. Hurry! Time is running out!"

Your Mission:

Analyze the Genesis Biotech Lab Data and use your knowledge of macromolecules, enzymes, and body systems to answer the following questions. Your findings may hold the key to stopping the Lazarus Virus before it spreads beyond containment.

Macromolecules & Viral Fuel Source

1. Identify and describe the four macromolecules:

- **Carbohydrates:** What is their function in the body? How are they affected by the Lazarus Virus?
- **Lipids:** What role do they play in cell membranes and energy storage? How does the virus use them?
- **Proteins:** How do they contribute to cellular function? What happens when the virus starts breaking them down?
- **Nucleic Acids:** Why are these macromolecules essential for genetic function? Does the virus manipulate DNA/RNA?

2. Which macromolecules does the Lazarus Virus rely on the most?

- **Look at Lab Test #1** (Blood Sample Analysis). Which macromolecules decrease in infected cells? Which increase?
- How might this change affect a person's ability to function?

Enzyme Function & Viral Manipulation

3. Define an enzyme. What is its function in living organisms?

4. Are enzymes specific to their substrate? Why or why not?

- Consider how enzymes function like locks and keys.

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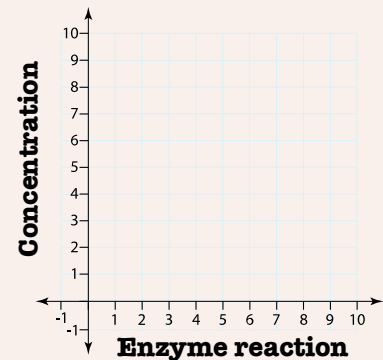
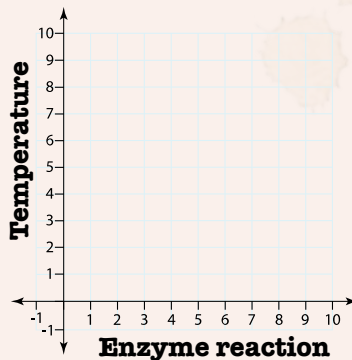
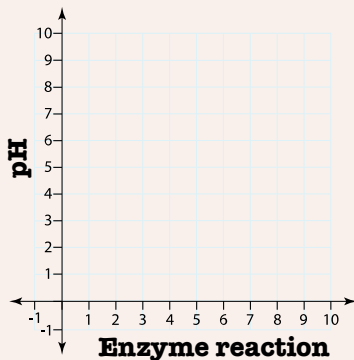
Student Challenge: Lazarus Virus Biological Analysis Report

5. How does the Lazarus Virus change enzyme activity in infected cells?

- Look at **Lab Test #2** (Enzyme Activity Graphs).
- Does enzyme function increase or decrease? What does this mean for the infected?

6. What happens when an enzyme's environment is altered?

- Describe the effects of pH, temperature, and substrate concentration changes on general enzymes.
- What do you predict is happening to enzymes in infected cells, where pH is more acidic?



The Immune System & Its Breakdown

7. What is the function of the immune system?

- Describe how the immune system normally defends against pathogens.

8. Why is the immune system failing to recognize infected cells as a threat?

- Look at Lab Test #3 (Organ System Response).
- What part of the immune system has stopped responding?
- How does this allow the virus to spread undetected?

9. How does a balanced diet support immune system function?

- Explain how carbohydrates, lipids, proteins, and nucleic acids contribute to a strong immune system.
- If a survivor has been eating poorly, would they be more or less likely to survive the virus? Why?

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The Nervous System & Infection Effects

10. What is the function of the nervous system?

- Describe its role in controlling body movements, reflexes, and responses.

11. Differentiate between the CNS (Central Nervous System) and PNS (Peripheral Nervous System).

- What does each control?

12. What does Lab Test #3 (Autopsy Report) suggest about nervous system function in infected individuals?

- Why do infected subjects move erratically?
- Why don't they respond to pain or fear?

13. What would happen if the CNS or PNS completely failed?

- Predict how full nervous system collapse would change a normal person? Zombie behavior?

Conclusion & Transition to the Next Station

- **Final Thought:**
- "The answer is in the blood. The virus isn't just infecting people—it's rewriting them. If we don't find a way to disrupt its process, it will evolve beyond anything we can control. I need you to continue your investigation. Move to the next station and uncover the next piece of the puzzle... before it's too late."

Next Stop: Station 2 – The Mutant Strain: Evolution & DNA