

I. Lambda (λ) phage

A. Life cycle

- a. bacteriophage = phage
- 1. virulent phages
- 2. λ history
- 3. temperate phage
 - a. lytic
 - b. lysogenic
 - a) lysogen
 - b) prophage

II. λ lytic pathway

A. 3 phases of transcription

- 1. immediate early
 - a. Cro
 - b. N.
- 2. delayed early
 - a. Q
- 3. late
 - a. P_R

III. λ lysogenic pathway

A. History

B. C_I - repressor

- 1. structure
- 2. promoters for *cI*
 - a. P_{RM}
 - b. P_{RE}
- 3. actions

C. C_{II}

- 1. P_{anti-Q}
- 2. P_i
- 3. P_{RE}

D. C_{III}

E. Lysogenic Summary

F. Superinfection prevention

IV. Immunity Region Operation

A. Operator structure

- 1. O_R1, O_R2, & O_R3

B. C_I binding.

C. Cro binding

V. Lytic or Lysogenic

A. Summary

B. Decision

- a. [C_{II}]
- b. proteinases