

**BIO 226N
STUDY GUIDE
HIV/AIDS**

A. History; Retroviruses

B. Transmission - Infected cells, secretion

C. Virus Growth

1. Receptors 2. Fusion of virus and cell 3. Reverse transcription 4. Provirus - integration into host chromosome 5. Latent 6. Sporadic activation 7. Kills T helper cells; depletes CMI + reduces humoral response 8. Fusion of infected and uninfected cells, syncytium, multiply killing effect 9. Humoral antibody is not protective - Antigen variation 10. Pathogen antigens activate HIV replication and wipe out T-helper cells when needed for defense.

D. Clinical Symptoms

1. Acute 1, 2 weeks; malaise; viremia
2. Seroconversion
3. Asymptomatic period 2-10 yrs (lymphadenopathy)
4. Progression to AIDS - T helpers depleted, weight loss, fever, oral thrush, diarrhea [ARC]
5. Aids - terminal HIV infection - no CMI, reduced humoral response - death due to opportunistic pathogen

E. Lab Diagnosis - test for antibodies to HIV

Elisa, Western blot, False Positive, False Negative

F. Treatment AZT - 3' azido - 2', 3' dideoxythymidine

G. Vaccine

H. Origin - HIV II, SIV, HIVI

I. Patterns of Transmission

KOCH'S POSTULATES

- I. Same pathogen must be present in every case of that disease
- II. The pathogen must be isolated from the diseased host and grown in pure culture
- III. The pathogen from the pure culture must cause the disease when inoculated into healthy, susceptible animal
- IV. The pathogen must then be isolated again from the diseased animal and shown to be the original organism