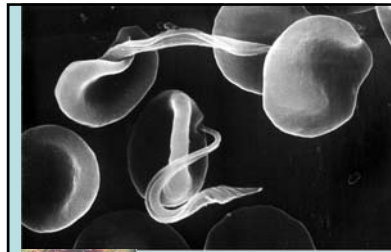
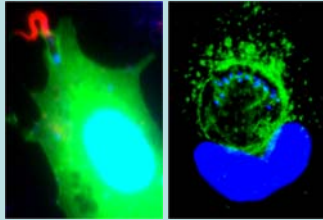
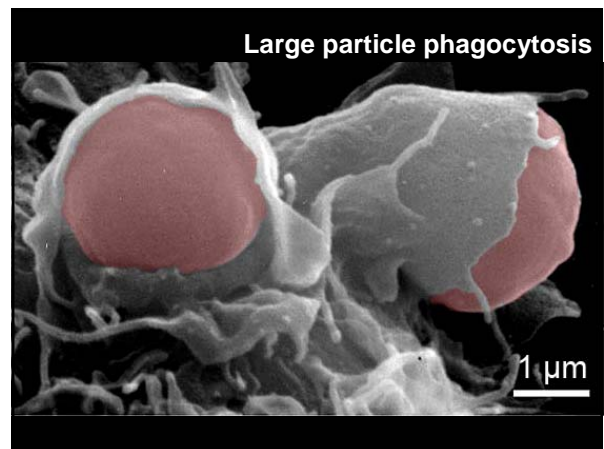
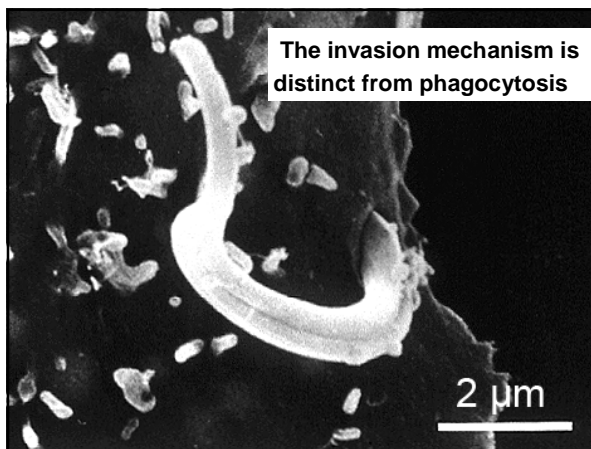
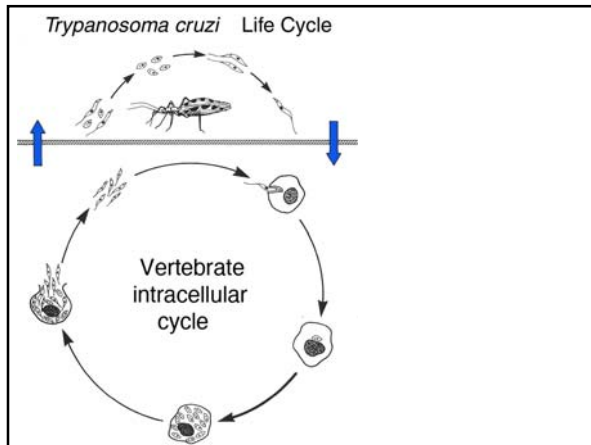


### Strategies for cell invasion and intracellular survival

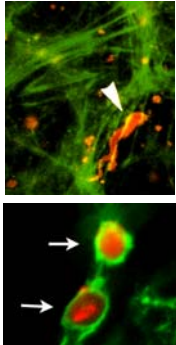
Norma Andrews  
Professor, Yale University



*Trypanosoma cruzi* in circulation in the blood during acute phase of Chagas' Disease

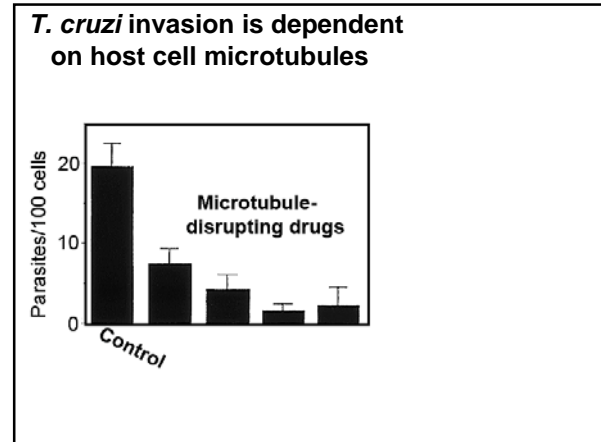


***T. cruzi* invasion is independent of host cell actin polymerization**




Actin microfilaments do not co-localize with intracellular trypomastigote

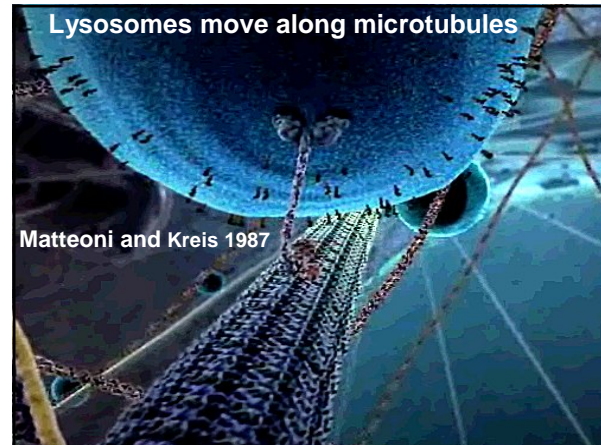
Polymerized actin around phagosomes containing yeast particles



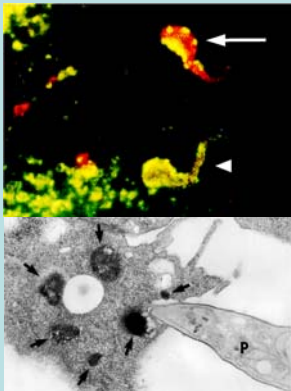
**Lysosomes fuse with *T. cruzi*-containing vacuoles**



lysosome marker Lamp-1

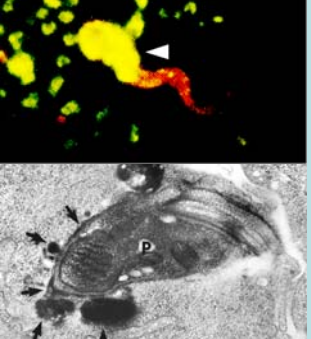


***T. cruzi* recruits host cell lysosomes**



extracellular parasite lysosomes

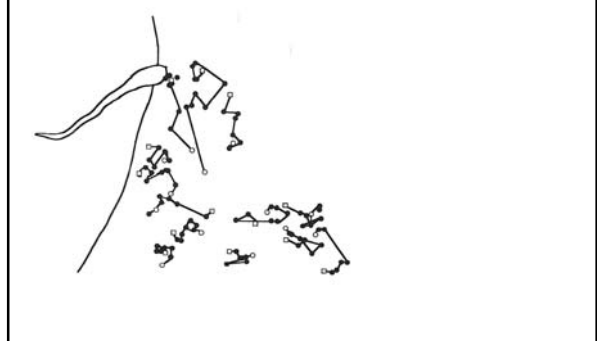
**Lysosomes gradually fuse with nascent parasitophorous vacuoles**



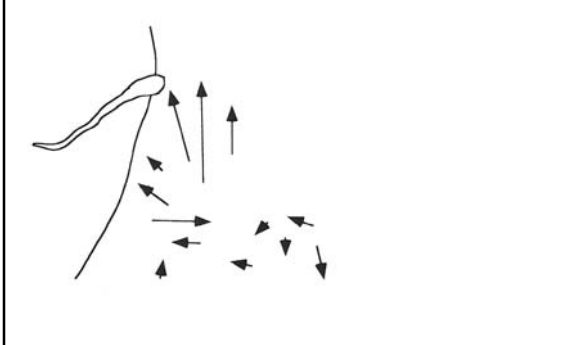
Time-lapse video microscopy of host cell lysosome recruitment by *T. cruzi*



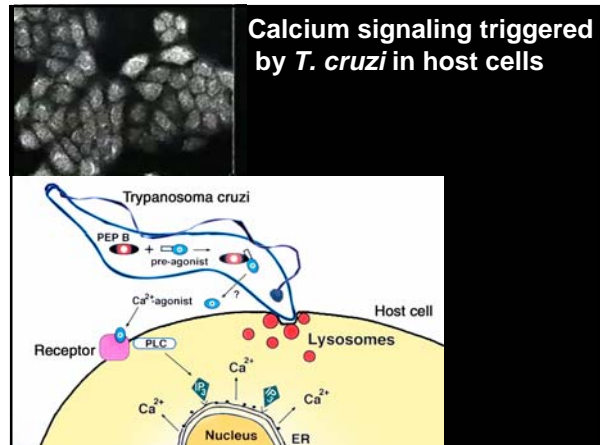
Time-lapse video microscopy of host cell lysosome recruitment by *T. cruzi*



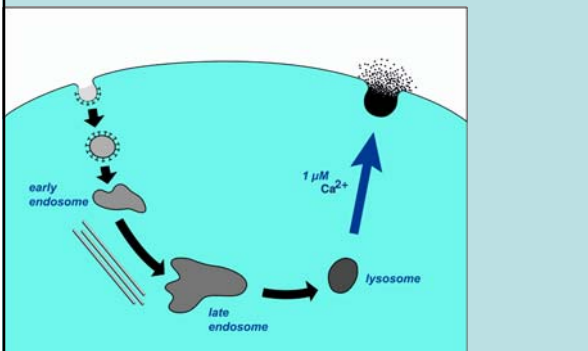
Time-lapse video microscopy of host cell lysosome recruitment by *T. cruzi*



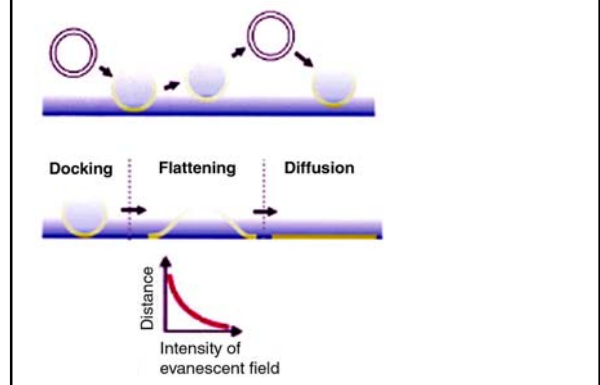
Calcium signaling triggered by *T. cruzi* in host cells

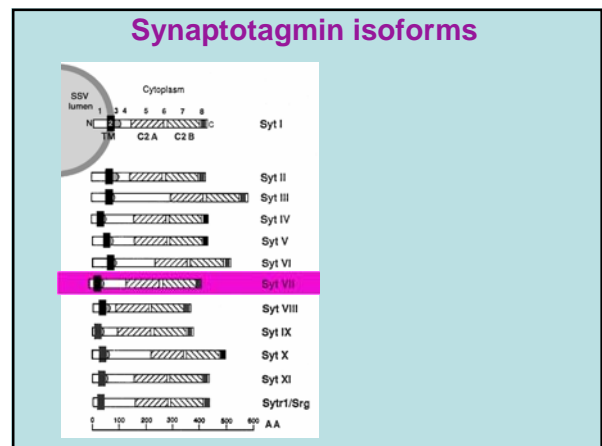
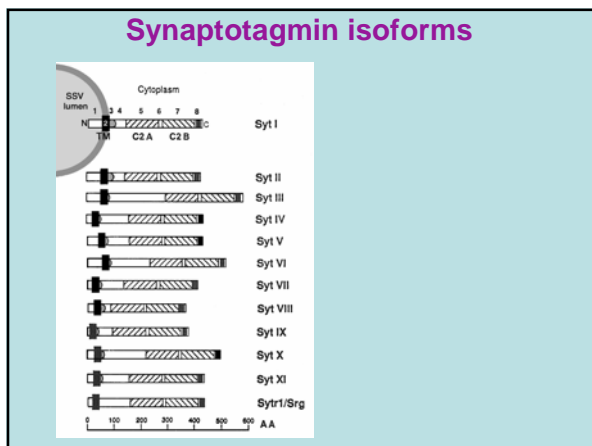
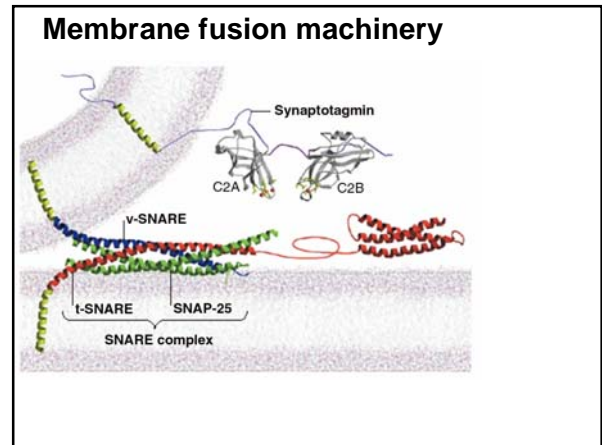
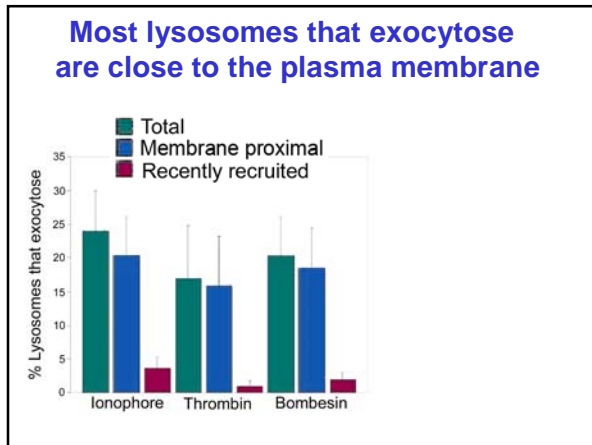
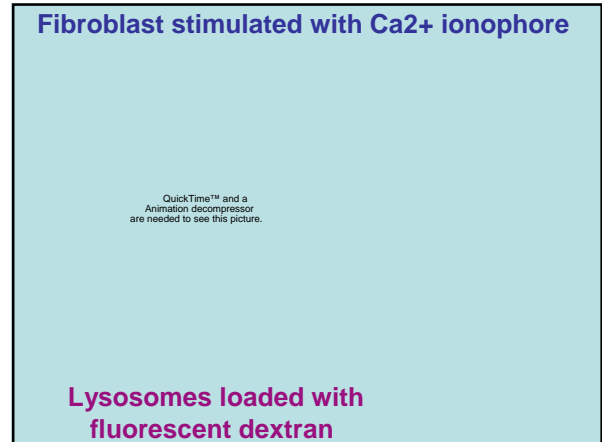
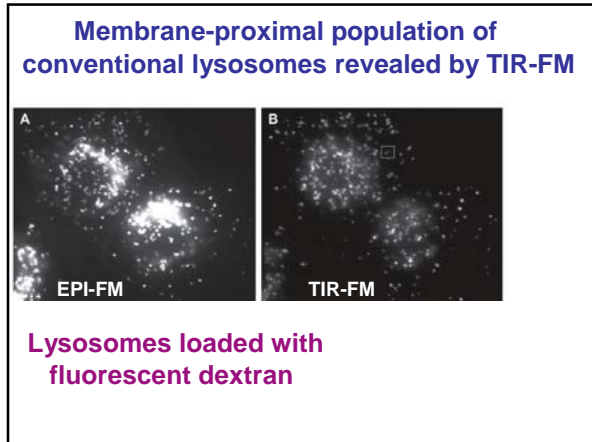


Regulated exocytosis of conventional lysosomes

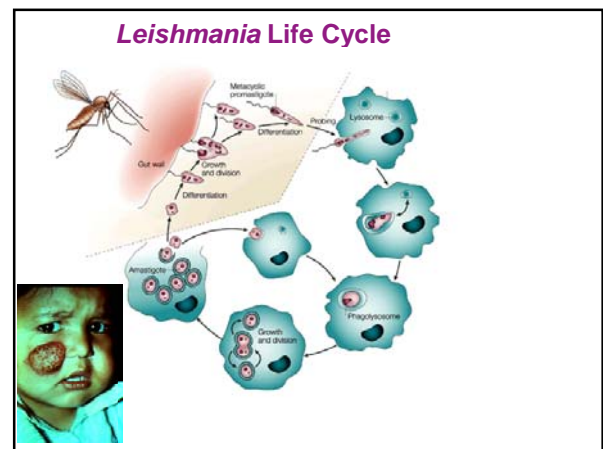
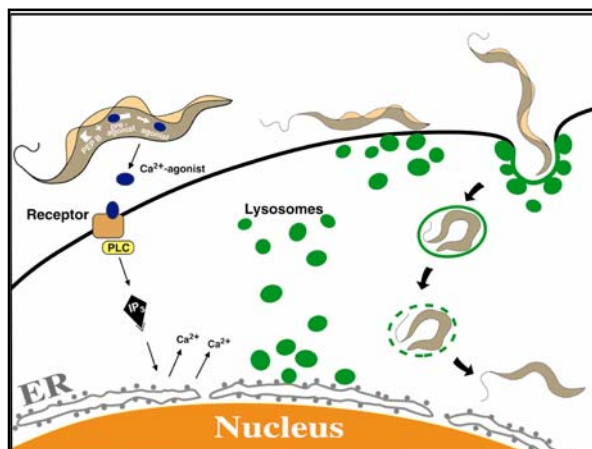
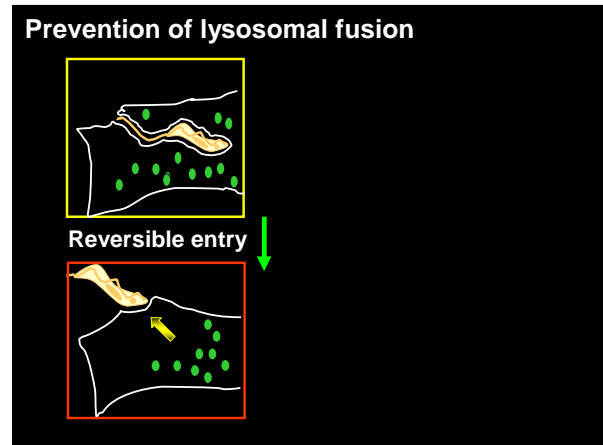
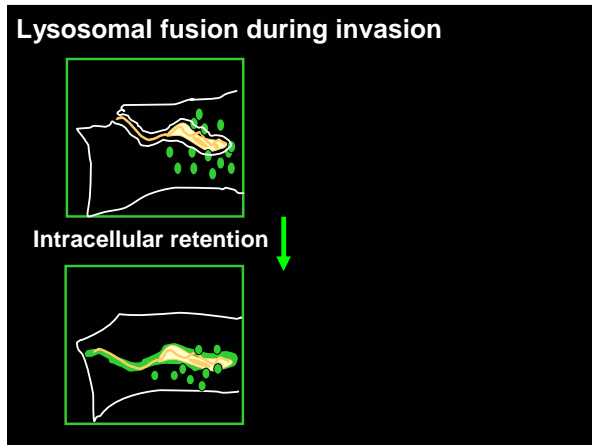
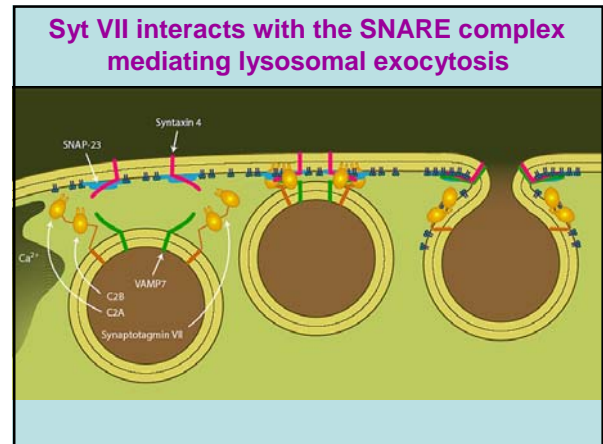
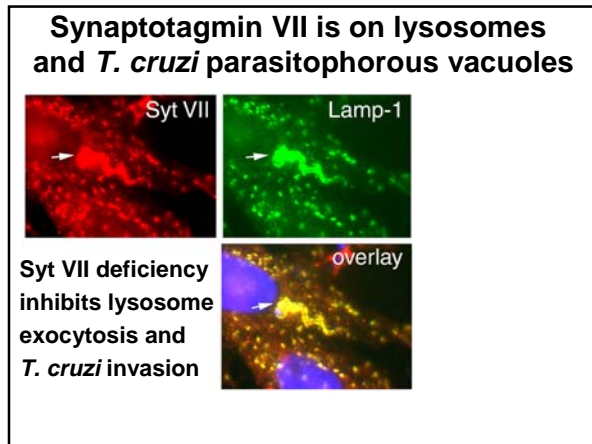


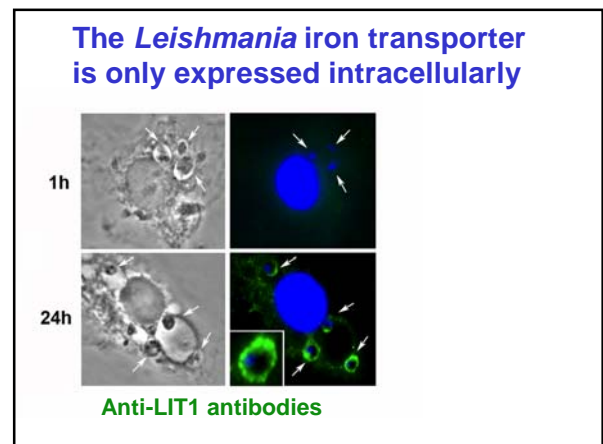
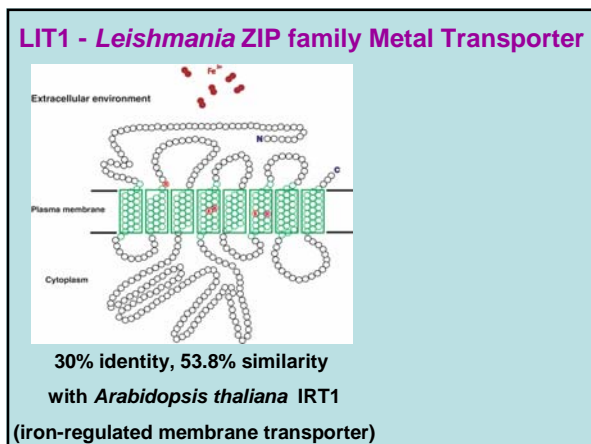
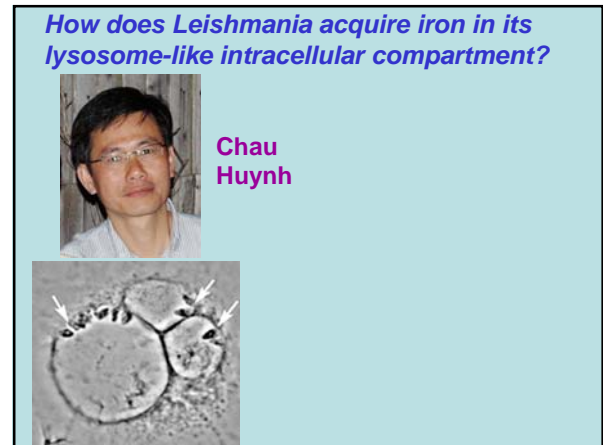
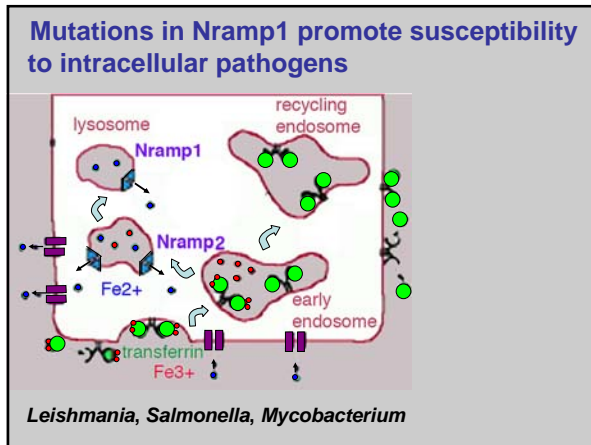
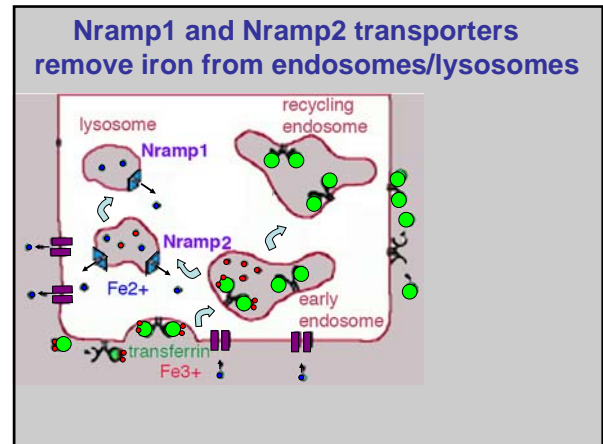
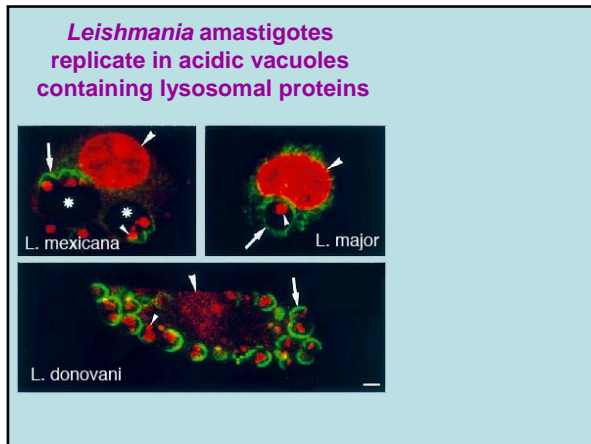
Total internal reflection microscopy

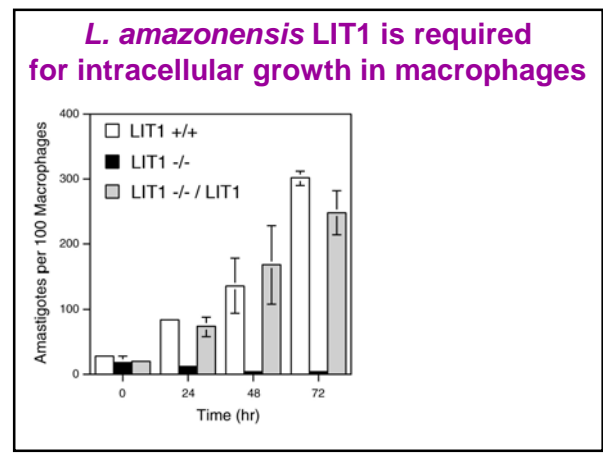
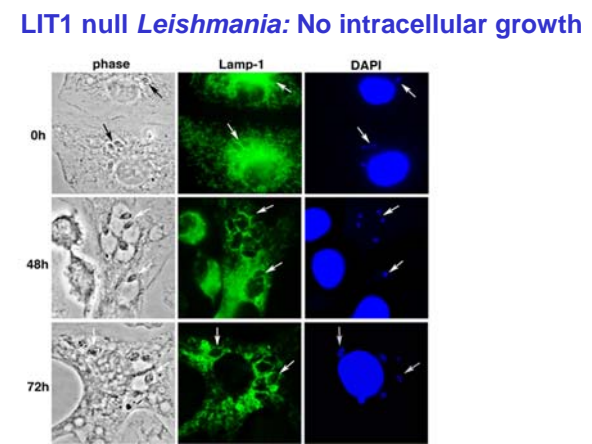
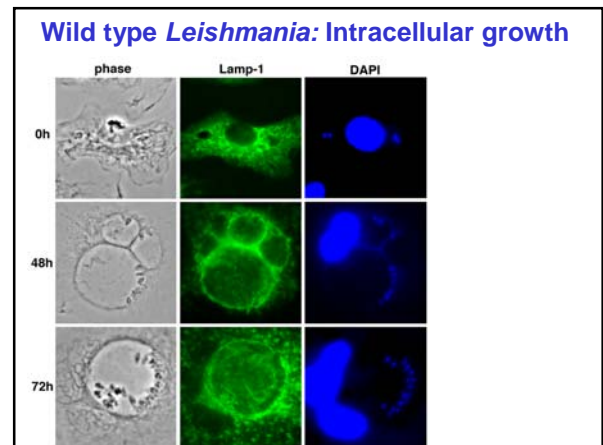
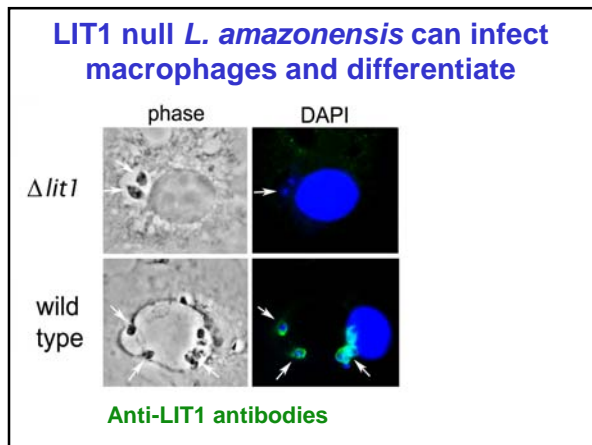
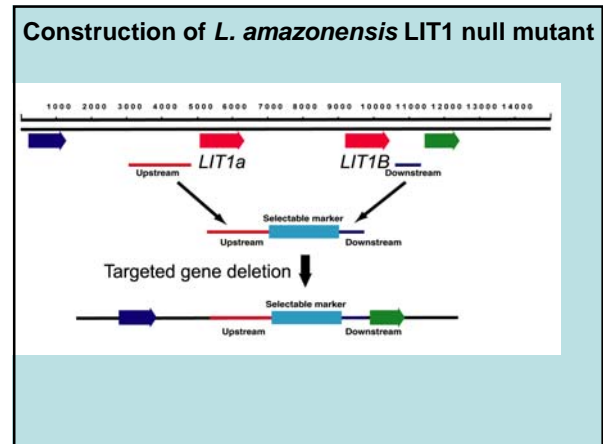
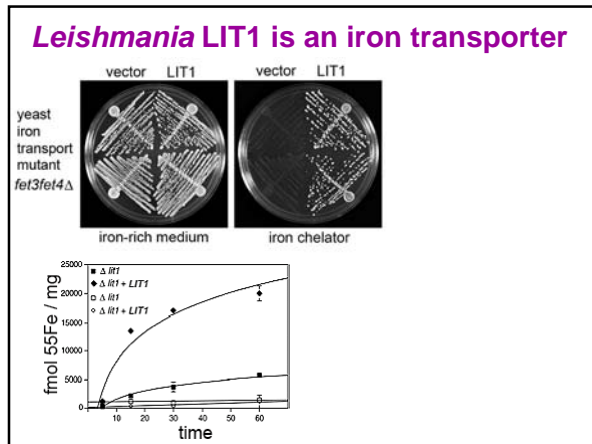


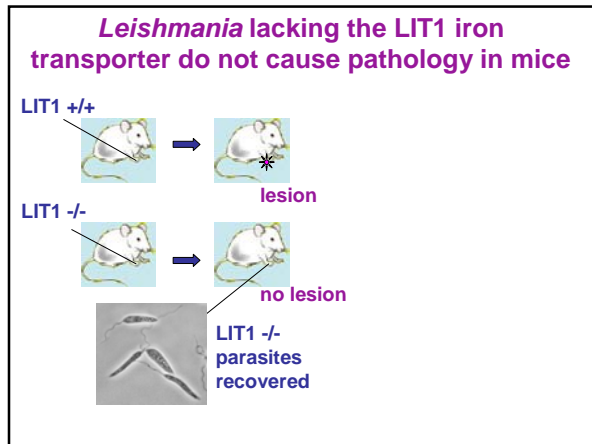












**Important question:**  
How (and in what cell type) does *Leishmania* persist in host tissues?

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