

## List of Figures

Fig. 2.1.	Scanning electromicrograph of a trophozoite of <i>E. histolytica</i> ingesting epithelial cells .	6
Fig. 2.2.	Life cycle of <i>Entamoeba histolytica</i> ..	7
Fig. 2.3.	Flowchart describing the experimental steps utilized to create transgenic plants that produce orally immunogenic proteins ..	11
Fig. 2.4.	M cells serve as passage ways for virus or antigen to be transported into Peyer s patches	14
Fig. 2.5.	A. Castor bean ( <i>Ricinus communis</i> ) B. Schematic diagram of ricin gene and mature ricin protein toxin	22
Fig. 2.6.	Serum antibody response elicited using ricin B as an adjuvant .	25
Fig. 4.1.	pBI121 vector .	35
Fig. 4.2.	Cloning strategy for pBIR <sup>DE</sup> vector ...	37
Fig. 4.3.	Cloning strategy for pBIR <sup>MeGA</sup> vector ...	38
Fig. 4.4.	Hairy root culture ...	40
Fig. 5.1.	Restriction endonuclease digestion to confirm insertion of the 35S <sup>DE</sup> -ricin fragment in pBIB-HYG ..	48
Fig. 5.2.	Colony hybridization of MeGA:ricin clones .	49
Fig. 5.3.	Confirmation of ricin insertion by PCR	50
Fig. 5.4.	Two independent experiments involving transient expression systems of ricin in hairy root cultures	52
Fig. 5.5.	Immunoblot analysis of affinity-purified ricin from transgenic tobacco plants .	54
Fig. 5.6.	Time course for induction of the MeGA promoter ....	57
Fig. 5.7.	Southern blot of DNA from transgenic tobacco plants ..	59
Fig. 5.8.	Protein translation inhibition assay	60