CHAPTER V

CONCLUSION

1. The activity of endo- and exochitinase of BFM in RRIT251 clone were higher activity than that in other clones (PB311, RRIM600 and BPM-24).

2. Both chitinases in BFM of *Hevea* latex were purified to homogeneity adjudged by SDS-PAGE and isoelectric focusing. The purified processes were carried out by Triton X-100 extraction, 2 chromatography on CM-Sepharose and Sephadex G-75 column, and then IEF analysis.

3. Both purified endo- and exochitinase from IEF separation had same in molecular weigh of 30 kDa and pI of endo- and exochitinase was 9.5 and 9.3, respectively.

4. Both chitinases having optimum pH were between pH 4-6 and then it sharply drops outside this range with the peak activity at pH 5.

5. Both purified enzymes were quite stable over a broad pH range of 3-7 and then declined at pH above 7.

6. Maximum activity was observed for both enzymes in the range of 30-45°C. The activity was then sharply dropped at above 45°C with hardly any activity detected at 55°C and above.

7. The thermal stability of both endo- and exochitinase was from 30-75°C with almost no loss of the activity for both the separated purified enzyme forms.

8. The Km and Vmax values of endochitinase were calculated to be 99.73 μM and 666 unit/ml of 4-MU-β-$(GlcNAc)_3$, respectively, while the Km and Vmax values of exochitinase was found to be 0.61 mM and 526 unit/ml of 4-MU-β-GlcNAc, respectively.

9. N-terminal amino acid sequencing between endo- and exochitinase showed that they did not similar sequence homology. Also, endo-and exochitinase did not conserve homology with other chitinases, except exochitinase was similar sequence homology to Hevamine or endochitinase in *Hevea brasiliensis* about 50% whereas endochitinase did not.