CHAPTER V

CONCLUSION

The results of the present investigation can be summarized as follows:

1. Nitrate reductase activity level in normal condition (0.5 M NaCl) is higher than in salt stress condition.
2. Nitrate reductase activity level in normal condition containing sodium nitrate as nitrogen source is higher than in other nitrogen sources: L-glutamine, ammonium chloride. Nitrate can function as an efficient inducer for the appearance of nitrate reductase activity level.
3. L-glutamine has little effect on growth but affects nitrate reductase activity.
4. Ammonium chloride inhibits both growth rate and nitrate reductase activity.
5. Nitrate reductase from *A.halophytica* is localized in cytoplasmic fraction.
6. Nitrate reductase from *A.halophytica* can be purified to homogeneity by four steps including ultracentrifugation, 20 – 60 % ammonium sulfate precipitation, DEAE–Toyopearl chromatography and Bio–Gel hydroxyapatite chromatography with 15.7 % yield and 406 purification folds.
7. The enzyme has a relative molecular weight of monomer about 58 kDa as analyzed by SDS – polyacrylamide gel electrophoresis.
8. The purified nitrate reductase from *A. halophytica* has Km value of nitrate about 465 μM and Vmax value is 32 nmol/min/mg protein in methyl viologen assay.

9. The purified nitrate reductase from *A. halophytica* can used ferredoxin as physiological electron donor.
10. The inhibition by various agents reveals that *p*-Chloromercuribenzoate, iodoacetamide, N-Ethylmaleimide, and KCN can inhibit more than 80 % nitrate reductase activity.
11. In the presence of 40 mM ClO_3, the enzyme activity is about 50 % loss.
12. Addition 40 mM of nitrite, the product of nitrate reductase activity, has no effect on nitrate reductase activity.