CHAPTER 5

CONCLUSION

There is no doubt that the toxin of Pseudomonas aeruginosa described here is an exotoxin, on ground that it was simply isolated from the supernatant of the culture washing. The purification described provides a simple and reliable method for preparation of substantial amounts of partially purified exotoxin and it is also clearly shown that the exotoxin is one of the major components of the culture supernatant. Therefore, it could be then expected that a relatively simple purification would be effective for isolation of exotoxin.

In term of toxicity, although the preparation we used was not the completely pure material, 1 LD_{50} for mice of 20 g. body weight contained 19.62 mcg. of the protein preparation. The mice died within 24 to 48 hours post-injection of exotoxin, and the prominent findings at autopsy included necrosis of the liver, edematous and multinucleated giant cells in spleen, and necrosis of the kidney.

When rabbits were immunized as for the production of antitoxin sera, the antibody response resoluted in the production of a heavy and a faint precipitin lines in gel diffusion test. The direct immunofluorescent antibody technique demonstrated that the exotoxin is distributed as limited-spotty regions in cytoplasm of the kidney, liver and spleen cells.

The *in vitro* neutralization test demonstrated that the antibody obtained had considerable protective activity against the exotoxin after *in vivo* demonstration. Furthermore, it would be extrapolated from this observation to clinical circumstances with the notion that the use of antitoxin sera with antibiotics might be needed for additional therapeutic approaches.