

CHAPTER VI

CONCLUSIONS

- It had been confirmed that *P. mirifica* phytoestrogens influence the vaginal epithelium, part of the female reproductive organ, in the ovariectomized rats.
- It was found that *P. mirifica* cultivar PM-IV exhibited the stronger estrogenic activity than cultivar PM-III, confirmed the influence of plant genetics.
- The estrogenic potency was ranked by 5 parameters; day of appearance of cornified cell and duration of cornified cell. From this study it was found that PM-III and PM-IV collected in January exhibited the strongest estrogenic activity that related with the seasonal influence. PM-III and PM-IV collected in October showed the lowest estrogenic activity.
- The uterus weight was increased in a dose dependent manner.
- In the analysis of endometrial tissue, it was found that uterus in the treatment with *P. mirifica* showed higher degree of glandular proliferation as well as endometrial area while the lumen was smaller. It is a first time demonstration that phytoestrogen treatment could initiate a better quality differentiation of uterine endometrium.
- This study should be a conventional guide to select the plant with a comparable estrogenic effect with E₂. This will open a possibility to introduce the plant product to be used for an alternative to ERT (Estrogen Replacement Therapy) in menopausal women.

Perspectives of the studies

The results from our study should be a conventional guide to search for plant materials or set up a plantation of *P. mirifica* and harvest tubers of plants with high estrogenic activity to serve the industrial demand. The simplified method present in our study is a conventional method with a similar pattern as did by human oral consumption of the plant product. Evaluation for the high quality material is a key of success in the product development and it could be practically reached by our established protocols.