03. Effect of *Habbatus sauda* and Nicotine towards Androgen Receptor in Prostate Gland of Male Rats

S. Lina, N.H. Hashida and H. Eliza

1Institute of Graduate Studies,  
2Division of Biology, Center of Foundation Studies in Science, and  
3Department of Anatomy, Faculty of Medicine,  
University of Malaya, 50603, Kuala Lumpur  
Corresponding author’s e-mail: lina_samsudin89@yahoo.com

Introduction: *Habbatus sauda* is a plant used since antiquity by worldwide society as aromatic, culinary purposes similarly as traditional medicine. The pharmacology properties in the *Habbatus sauda* may attribute to remedial value of it. Nicotine, an alkaloid in the tobacco cigarette has detrimental effect in rodent is well documented. Androgen receptor (AR) function to support proliferation of prostate cells.

Objectives: Thus, this study was conducted to determine the presence of androgen protein in the prostate gland of both *Habbatus sauda* and nicotine treated male rats.

Methodology: The rats were divided into five groups and each group was treated for 100 days with either saline (S), nicotine (N), corn oil (CO), *Habbatus sauda* (HS) or nicotine-*Habbatus sauda* (NHS). The S group was intramuscularly (i.m.) injected with 1.0ml/100g of saline, while the N group was intramuscularly (i.m.) injected with 5.0mg/100g of nicotine. The CO group was force-fed with 0.1ml/100g of corn oil while the HS group was force-fed with 6µl/100g of *Habbatus sauda* oil. The NHS group was treated with same dose as given to the N and HS groups. The abstracted prostate gland was fixed in formalin solution for tissue processing prior to staining with AR mouse monoclonal primary antibody.

Result and Discussion: The control, S and CO groups both showed high intensity of immunostaining in the epithelial cells suggesting presence of androgen protein in the prostate gland. Similar results were also observed in the HS and NHS groups. However, compared to the N group, epithelial cells showed absence of immunostaining in the prostate gland.

Conclusion: This study suggests that nicotine caused damage to the prostate gland cells via disrupting their androgen receptor. *Habbatus sauda* however was shown to be able to prevent the detrimental effect caused by the nicotine.