**ملخص البحث رقم (4)**

**Title:** *FILARIAL EXCRETORY-SECRETORY ANTIGENS INDUCE MURINE PRODUCTION OF IFN-GAMMA AND IL-15*

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**ABSTRACT**

Filarial nematodes are responsible for an annual global health burden of ~6.3 million people. We studied the effect of excretory-secretory products (ES) of the female worm *Setaria equina* and the drug diethylcarbamazine citrate (DEC) and their combination on the production of interferon- gamma (IFN-γ) and interleukin- 10 (IL-10). Seventy male Swiss mice, (22 ± 2 g) of about 4-6 weeks old were used and divided into seven groups each one consisted of 10 male mice. The first group (control) received 1 ml tyrode's solution, the second group received 0.25 ml ES, the third group received 1 ml ES, the fourth group received 25 mg/kg DEC in 0.25 ml tyrode's solution, the fifth group received 100 mg/kg DEC in 1 ml tyrode's, the sixth group received 25 mg/kg DEC in 0.25 ml ES and the seventh group received 100 mg/kg DEC in 1 ml ES. *Ex vivo* assay results showed that both 0.25 ml and 1 ml of ES could induce the highest level of IFN-γ release compared to the control group ($P<0.001$). In contrast, the same mice groups showed the lowest decrease in IL-10 levels ($P<0.001$). For *in vivo* tests, serum levels of IFN-γ were the highest in all groups, while IL-10 levels were the lowest in ES mice groups ($P<0.001$). Immunoblotting has shown a higher expression of Interleukin- 15 (IL-15) in ES mice groups with observably higher expression in 1 ml ES than 0.25 ml ES ($P<0.001$). IL-15 protein was localized using immunohistochemistry where the staining pattern in liver suggested that tissue resident Kupffer cells were the main producers and they were present in abundance in mice receiving high dose of ES.

***Key Words*:** Filariae - Excretory-secretory products - DEC - IFN-γ - IL-15.