

Innate Immunity of Insects in Brief

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Abstract : As the field of immunology is growing day by day, and its chaotic system amazes more people, greed of research in this area is growing; however dealing with human or mammalian cells such as mice make the research expensive. Although there are some differences between higher animals with insects, importance of innate immunity during evolution made it untouched. So, for understanding the innate immunity insects can be good models. They are cheap; reproduction is fast and in the case genetics, less complicated. In this review, we tried to briefly tackle with important factors in insects' innate immunity such as melanization, encapsulation, JAK-STAT, IMD, and Toll pathways. At the end, we explained how hormones and nerve system also can impact on immune system and make it more beautiful. In concluding remarks, the possibility of taking help from insect immune system to fight against diseases such as cancer has been considered.

Keywords : insects, innate immunity, melanization, intracellular pathways, hormones

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