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CENTRE NATIONAL
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CONFÉRENCES JACQUES-MONOD

Insect immunity: the post-genomic era

La réponse immunitaire des Insectes :

l'ère post-génomique

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P57- New data about hemocytes of *Manduca sexta*

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In recent years several aspects of cellular immune reactions of hemocytes of the tobacco hornworm *Manduca sexta* have been identified and analyzed by several authors using molecular markers such as monoclonal antibodies or lectins.

We will give an overview over a set of markers used in our laboratory to identify special hemocyte subpopulations, their identification within the insect hemocoel, to analyse the differentiation and changes of hemocytes during development of the insect, to determine the endocytotic capabilities of the hemocytes.

We also will report about special hemocyte factors that may be involved in defense or wound reactions of the insect.

Within this overview details will be given on MS#75-positive and other plasmatocytes as well as on the corresponding antigen to MS#78. Data on possible signal transduction components that are linked to phagocytosis and the distribution of special hemocyte components such as proteases, hemocyte aggregation inhibiting factor (HAIP) and a hemocytin-like molecule will complete the presentation.

P 58- Social interactions in the ant *Camponotus fellah*: immunological correlates

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Sociability is based on a trade-off between costs and benefits. Insect societies are exposed to a myriad of pathogens. In their life history, they should have developed strategies to face the risks of living in societies. These include physiological and behavioural mechanisms of defence. We studied the behaviour of the ant *Camponotus fellah* toward immune challenged workers. This species exhibits high levels of social interactions and dedicate particularly a great amount of time in trophallaxis and allogrooming behaviour. Such tasks can increase asepsy in the colony; but they expose the caring worker to a high risk of becoming infected and increasing the level of infection in the colony. Media workers were challenged by injection of 0.2 μ l of peptidoglycan (0.5mg/ml) from *Staphylococcus aureus*, a pathogenic bacterium. This substance mimics a bacterial infection. Four hours after injury, the ants behaviour was observed inside the colony. Challenged workers received significantly less grooming than control workers treated with Ringer solution only. We hypothesized that workers of *C. fellah* can detect sick workers and minimize the contact with them. In order to examine this question more carefully, the activity of peptidoglycan from different types of bacteria (pathogenic or not) will be compared in other behavioural assays.