



The Sea Star B Lymphocyte

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Opinion

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Opinion

The sea star B lymphocyte is found in the sea star axial organ which has been considered by us, as an ancestral lymphoid organ [1]. Other lymphocytes are supposed to be also present in Tiedeman's bodies of different starfishes.

The sea star B lymphocyte, of 4µ in diameter presents a rough reticulum endoplasmic, particularly highly developed, so the Golgi apparatus in TEM. We observe it in the Figure 1 below. It resembles mammal lymphocytes in its entire morphology.



Figure 1: A sea star B lymphocyte.

The sea star B lymphocyte is obtained from a separation into a nylon-wool column : it is said a nylon-wool adherent cell. It may be also obtained in a reaction of agglutinability with different lectins such as wheat germ agglutinin. On the other hand the sea star T lymphocyte is a non-adherent

nylon wool cell and may be agglutinated by concanavalin A.

In this thematic, sea star B lymphocyte has mitogenic properties : LPS and Nocardia Opaca delipidated stimulate the « proliferation » of B cell subpopulation at a degree which

is similar to mammal lymphocytes. On the other hand [2] T sea star lymphocytes are stimulated by concanavalin A.

At last, it is noticeable, that after immunizations of sea stars with various antigens, B sea star lymphocytes increase in percentages, when compared to the whole axial organ cell population : it goes from 10 % up to 45 %.

We speak of adaptative immunity in sea star immune system correlated to IPA : Invertebrate Primitive antibody.

Of course these data are contested by many authors. But since we have found MHC genes [3] in these Invertebrates

which are Echinoderms, it seems more and more clear we are in the truth.

References

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