

The Sea Star Lymphocytes: A Reply to Evolutionary Immunologists

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ABSTRACT

Evolutionary Immunologists in AAI contest our data. By our turn we contest them. We present again our work with the well-known B sea star Lymphocyte and T sea star Lymphocyte. They show strong homologies with mammal lymphocytes as described below. SO why to speak of central DOGMA ? Why a dogma? Never demonstrated? Or at your convenience!

Keywords: B Sea Star Lymphocyte, T Sea Star Lymphocytes, Mammal Lymphocytes, Evolution

INTRODUCTION

TDespite some indications from more 30 years ago that Invertebrates also have a specific (Adaptative) immune system based on the clonal expansion of activated lymphocytes, it has become the central dogma of evolutionary immunologists (From AAI?) that Invertebrates, in the absence of « true » lymphocytes and functional Ab, rely entirely.... I, now allow to describe our lymphocytes.

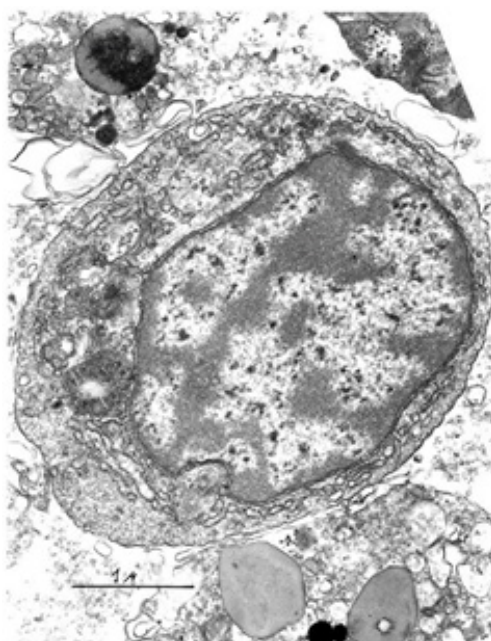


Figure 1. The sea star B Lymphocyte, with its RER system and its scale.

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The B and T sea star lymphocytes

1) 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 4 μ in diameter presents a rough reticulum endoplasmic, particularly highly developed, so the Golgi apparatus in TEM. We observe it in the figure below. It resembles mammal lymphocytes in its entire morphology.

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.

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.

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 %.

2) The T sea star lymphocyte is also found in the sea star Axial organ. It is also 4 μ in diameter. It is said a nylon-wool non adherent cell (as physical property). It may be also obtained in a reaction of agglutinability with lectins such as ConcanavalinA. The T sea star lymphocytes induced angiogenesis and splenomegaly in Vertebrate hosts [2]:

IT'S A CHARACTERISTIC ALSO of Mammal lymphocytes. This T sea star lymphocyte has mitogenic properties as mammal one : it is stimulated by lectins as ConA, PWM.

We speak of adaptative immunity in sea star immune system correlated to IPA: Invertebrate Primitive antibody., after cooperation of T and B sea star lymphocytes and phagocytes which play the rôle of macrophages as IT was CLEARLY demonstrated in 1986 [3].

Further more, we have found MHC genes [4] in these Invertebrates which are Echinoderms, it seems more and more clear we are in the truth. And Now 3 questions to you: 1) What do you call a « true » lymphocyte ? My reply: a lymphocyte is a lymphocyte.

3) Who are the evolutionary immunologists? You from AAI or me?

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