

Presence of plasmocytes in non-immunized *Asterias rubens* sea stars

Abstract

In this brief report, we recall the existence of sea star T and B lymphocytes in the sea star *Asterias rubens*. Otherwise the Figure 1 shows sea star Plasmocytes, after centrifugation in a micro hematocrit centrifuge at 100g, in animals which have not been immunized. Their presence calls an explanation.

Keywords: plasmocytes, horse-radish peroxidase, lymphocytes, cytoplasm

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Introduction

We have described in the past¹ plasmolymphocytic cells in the Axial Organ (AO) of starfishes or sea stars: *Asterias rubens*, after immunizations to HRP (Horse-radish peroxidase).

More recently, we discovered what we call sea star plasmocytes, in non-immunized *A. rubens* Figure 1, at the level of the Axial organ, which has been considered by us, as a primitive lymphoid organ.

The AO cells (from the whole AO cell population), were obtained after centrifugation at 100 g, in a micro hematocrit centrifuge and colored to Giemsa.

Results

The Figure 1 shows plasmocytes of *A. rubens* with a diameter of 7-8 μ : they have a cytoplasm more important than in lymphocytes (either sea star T lymphocytes or B sea star lymphocytes).²

We recall sea star lymphocytes can be separated into T and B by a nylon-wool column, according the well-known method of Julius et al.³

The plasmocyte nucleus seem reoriented in the Figure 1: it is due to the centrifugation. Some of them are reniform (3 nuclei out of 4 observed). At last some vesicles appear in the cytoplasm.



Figure 1 Sea star *Asterias rubens* plasmocytes after centrifugation and coloration at Giemsa.

Discussion

The existence of sea star *A. rubens* plasmocytes in non-immunized *A. rubens* can be explained by:

- They exist in a spontaneous way.
- Some external attacks like virus, microbes which surround the biotope can provoke their emergence.

We presume that sea star plasmocytes are issued from the lineage of B sea star cell subpopulation. It seemed interesting to us, to present you such iconography in this report.

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Conflicts of interest

The author declares that there are no conflicts of interests.

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