

Observation of Blood Cells of the Ascidian, *Phallusia Nigra*, with X-Ray Microscope

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Abstract

Blood cells of ascidians (tunicates) are known to accumulate vanadium selectively from sea water [1]. It has been long discussed which type of blood cells is most abundant in vanadium and how to accumulate so selectively. Michibata *et al.* reported that signet ring cells was assigned as true vanadocytes with the use of a combination of density gradient centrifugation and neutron activation analysis [2].

X-Ray microscope has been used as a powerful tool of investigating heavy metal distribution at subcellular levels. As vanadium is expected to give a high contrast, we have started observing blood cells of ascidians, *Phallusia nigra*, by the x-ray microscope installed at SR center of Ritsumeikan University. Four types of cells were observed under the x-ray microscope. The cells identified as signet ring cells showed a heterogeneous contrast, and the structure that may correspond to the vacuole showed denser contrast than other parts of the cells. The result suggests that vanadium is accumulated in the vacuoles of signet ring cells.

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