

Abstract

Hemocytes are the main immune cells of invertebrates; therefore they can be found in molluscs, too. They differ both in morphology and function. The two generally accepted morphological types, granulocytes and hyalinocytes, vary in the level of phagocytosis and encapsulation, production of reactive oxygen species and nitrogen oxide, and presence of some enzymes. There is an array of methods by means of which hemocytes can be characterized. Microscopy serves particularly for study of morphology. Antigens localized on the surface can be determined by monoclonal antibodies or lectin probes. Hemocytes can be divided on the basis of cell size and granularity using gradient centrifugation or flow cytometry. Production of nitrogen oxide and reactive oxygen species is monitored by adding appropriate substrate which changes its properties after reaction with the radical. It may become fluorescent, change absorbance of the solution or form a visible precipitate. Another possibility is the use of chemiluminescence. The objective of hemocyte research is to explain mollusc–pathogen interaction.