

Flow cytometry As a Tool for Monitoring Immune
Parameters of the Manila clam
Ruditapes philippinarum

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Abstract

Hemocytes in marine bivalves play important immunological roles in discrimination, opsonization and phagocytosis of foreign materials as a defense mechanism. In this study we report the flow cytometric implications to investigate the immune parameters such as the compositional and the functional characteristics of hemocytes isolated from the Manila clams, *Ruditapes philippinarum*. Heterogeneity of the hemocytic cell population was determined by the forward scatter (FSC) and side scatter (SSC) cytometric profile which showed three populations: granulocytes, hyalinocytes and small agranular cells. In addition, phagocytosis rate was measured after adding fluorescent-labeled particles. The data were initially analysed for two-parameters: FSC and SSC, then the fluorescent (FL 1) frequency distribution histogram of the hemocyte population was subsequently obtained.

Key words: immunity, hemocyte, *Ruditapes philippinarum*, flow cytometry.