

{rokbox title=| Micrographs of haemocyte types of various bivalve species :: Image: Authors|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-bivalve-haemocyte-subpopulations-maresca-2022-thumb-et-al.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-bivalve-haemocyte-subpopulations-maresca-2022-et-al.jpg{/rokbox}

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Abstract:Bivalve molluscs stand out for their ecological success and their key role in the functioning of aquatic ecosystems, while also constituting a very valuable commercial resource. Both ecological success and production of bivalves depend on their effective immune defence function, in which haemocytes play a central role acting as both the undertaker of the cellular immunity and supplier of the humoral immunity. Bivalves have different types of haemocytes, which perform different functions. Hence, identification of cell subpopulations and their functional characterisation in immune responses is essential to fully understand the immune system in bivalves. Nowadays, there is not a unified nomenclature that applies to all bivalves. Characterisation of bivalve haemocyte subpopulations is often combined with 1) other multiple parameter assays to determine differences between cell types in immune-related physiological activities, such as phagocytosis, oxidative stress and apoptosis; and 2) immune response to different stressors such as pathogens, temperature, acidification and pollution. This review summarises the major and most recent findings in classification and functional characterisation of the main haemocyte types of bivalve molluscs.

Keywords:granulocyte,hyalinocyte,immune response,haematopoiesis,phagocytosis.