The oyster crassostrea gigas as a new model for research in cancer biology

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The Warburg effect is one of the hallmarks of cancer cells in humans. It is a true metabolic reprogramming to aerobic glycolysis, allowing cancer cells to meet their particular energy needs for growth, proliferation, and resistance to apoptosis, depending on the microenvironment they encounter within the tumor. We have recently discovered that the Crassostrea gigas oyster can naturally reprogram its metabolism to the Warburg effect. Thus, the oyster becomes a new invertebrate model useful for cancer research. Due to its lifestyle, the oyster C. gigas has special abilities to adapt its metabolism to the extreme changes in the environment in which it is located. The oyster C. gigas is therefore a model of interest to study how the environment can control the Warburg effect under conditions that could not be explored in vertebrate model species.