

# Concholepas hemocyanin biosynthesis takes place in the hepatopancreas, with hemocytes being involved in its metabolism

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Hemocyanins are copper-containing glycoproteins in some molluscs and arthropods, and their bestknown function is O<sub>2</sub> transport. We studied the site of their biosynthesis in the gastropod *Concholepas concholepas* by using immunological and molecular genetic approaches. We performed immunohistochemical staining of various organs, including the mantle, branchia, and hepatopancreas, and detected *C. concholepas* hemocyanin (CCH) molecules in circulating and tissue-associated hemocytes by electron microscopy. To characterize the hemocytes, we purified them from hemolymph. We identified three types of granular cells. The most abundant type was a phagocytelike cell with small cytoplasmic granules. The second type contained large electron-dense granules. The third type had vacuoles containing hemocyanin molecules suggesting that synthesis or catabolism occurred inside these cells. Our failure to detect cch-mRNA in hemocytes by reverse transcription with the polymerase chain reaction (RT-PCR) led u