

The Antibacterial Activity of Melanin in the Cuttlefish (*Sepia sp.*) Ink against *Aeromonas sp.*

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ABSTRACT

The marine environment consists of many organisms recognized to have bioactive compounds as a mechanism of self-defense or protection of eggs and embryos. One of them is cuttlefish (*Sepia sp.*). This study aimed to determine the potential and bactericidal action of the cuttlefish ink melanin against *Aeromonas sp.* Ink extraction and purification were carried out to obtain melanin mechanically using 0.5M HCl. The growth patterns of bacteria were studied by the Total Plate Count method, and the bactericidal mechanism of melanin was observed by Transmission Electron Microscopy (TEM). The results showed that cuttlefish ink melanin inhibited *Aeromonas sp.* as indicated by the shrinkage of cell size and irregular cell shape. The results of this study are important information for dealing with *Aeromonas sp.* attack in cultured fish.

Keywords: Cuttlefish, Ink, Melanin, Antibacterial activity