# IDENTIFICATION OF HEME-BINDING PROTEINS IN *AEDES AEGYPTI*

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Heme is essential for all aerobic cells. It is the prosthetic group of many hemoproteins and plays an important role in many essential events such as respiration and cell signaling. However, free heme is a powerful pro-oxidant. Thus cells tightly control its intracellular levels by a balance between heme synthesis, degradation and binding to proteins.

Digestion of host blood in the midgut lumen of the mosquito *Aedes aegypti*, vector of Dengue viruses, releases large amounts of heme. It has already been show by our group that midgut epithelium cells have the ability to degrade heme. Nevertheless, no data is available about proteins capable of binding heme.

In this work, we aim to identify and characterize heme-binding proteins in *Aedes aegypti*. Homogenates of thorax and abdomen dissected from starved females were analyzed by incubation with hemin-agarose resin followed by SDS-PAGE. Four polypeptides with approximately 18, 21, 25 and 35 kDa bound to the resin. A similar result was obtained when homogenates were incubated to avidin-agarose, after pre-incubation with biotinyilated heme. In both assays, the binding of these proteins was prevented by pre-incubation of homogenates with a molar excess of free heme. These results suggest that these are specific heme-binding proteins. The isolation and identification of these proteins will be carried on by bi-dimensional electrophoresis followed by MALDI-TOF/MS.

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