

Proteins Related to Intestinal Microvillar Process and to Apocrine Secretion in
Tenebrio molitor

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Tenebrio molitor is a model insect whose molecular physiology has been the target of detailed studies. Nevertheless, little is known about intestinal microvillar transporters and proteins related to some other functions like detoxification and apocrine secretion. In order to identify encoding genetic sequences of proteins related to the mentioned processes, 1632 clones of a normalized cDNA library were sequenced, resulting in 105 contigs and 754 singlets. The sequences were identified by similarity searches in gene banks. Fifty contigs and 189 singlets matched sequences of data banks and were classified using the Gene Ontology annotation. Sequence domains were analyzed using the InterProScan Tool of EMBL-EBI. Sequences coding for selected proteins were submitted to further studies. Interesting sequences found include: digestive enzymes as alpha-amylase, alpha-L-fucosidase, alpha-mannosidase, aminopeptidase, beta-glucosidase, carboxypeptidase, chymotrypsin and trypsin; transporters of sugar and fatty acids; structural protein as peritrophins; and proteins that could be related to the apocrine secretion process as vinculin, moesin, ezrin and radixin. Five sequences of peritrophin-A were selected to be completed, but as a result of the repeats within the protein and similarity of the sequences, this process is slowly developing.

Keywords: Peritrophin; *Tenebrio molitor*; Transcriptome.