

Proteomics to identify odorant binding proteins (OBPs) and Chemosensory Proteins (CSPs) from the Antennae and Tarsi of *Tribolium brevicornis*

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Chemoreception in insects is mediated by small soluble proteins that are abundantly present in the aqueous lymph of chemosensilla and that interact with odorant molecules and pheromones on their way to and from olfactory receptor. Two major classes of such proteins have been described: odorant binding proteins (OBPs) and chemosensory proteins (CSPs). A proteomic approach based on two-dimensional polyacrylamide gel electrophoresis (2-D PAGE), in which proteins are separated according to charge (pI) by isoelectric focusing (IEF) and according to size (Mr) by SDS-PAGE, was performed for the resolution of complex mixtures of proteins from antennae and Tarsi of *Tribolium brevicornis*. The proteins were then silver-stained and analysed by Matrix assisted laser desorption time of flight MS (MALDI-TOF) or by Electro spray (ESI) coupled with tandem Mass Spectrometry (MS-MS). Proteins from this *Tribolium* species was found to present sequence similarities to OBPs and CSPs recently discovery in several other insect orders. Development of proteomic studies was discussed in term of efficiency in functional and evolutionary entomology.

Key words: Odorant Binding protein; chemosensory protein; antennae; tarsi; *Tribolium brevicornis*; insect