

TITLE

THE PROTEOME OF THE OUTER MEMBRANE VESICLES OF AN ANTARCTIC BACTERIUM *PSEUDOMONAS* *SYRINGAE*

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Membrane vesicles are found in the medium from Gram -ve bacterium during cell division. These proteo-lipids are called outer membrane vesicles (OMV). The functions of these vesicles are not very clear. However, some studies revealed that the vesicles perform several biological functions, such as DNA transfer, and protein delivery to eukaryotic or prokaryotic cells. Characterization of these vesicles may facilitate the design of protein, DNA or other drug carriers. Studies on cold adapted bacteria might further facilitate the detection of biotechnologically important molecules such as enzymes. The current study is aimed at analyzing the presence and function of OMV produced from the non pathogenic psychotropic Antarctic bacterium *Pseudomonas syringae*. Membrane vesicles of the Antarctic bacterium *Pseudomonas syringae* Lz4W were prepared and characterized. Transmission electron microscopy revealed that the size of the vesicles ranged from 90 to 160nm. The vesicles contained ~10 kb DNA fragment. Vesicle proteins were fractionated on a 10% SDS-gel and the trypsin digests of the bands were analyzed by liquid chromatography-matrix assisted laser desorption/ionization. The proteins were identified with GPS explorer that uses Mascot search program. The vesicles contained at least 100 proteins. The sub cellular proteins present were from cytoplasm, inner membrane and outer membrane. Further studies aimed at identifying other lipid components are in progress.