

A PROTEOMIC ANALYSIS OF BIOFILM INDUCED BY BILE SALTS IN *VIBRIO CHOLERAE* O1

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During its life cycle, *Vibrio cholerae* passes through aquatic and human intestine environments, which differ in factors as nutrient concentrations, osmolarity, temperature and pH. Adhesion to surfaces and formation of biofilms play important roles in *V. cholerae*'s success as an environmental and pathogenic organism. In previous works we showed that the presence of a bile salt (DOC) increases *V. cholerae* ability to form biofilm especially under low inorganic phosphate (Pi) concentration. In order to have a molecular picture of the biofilm formation in *V. cholerae*, we initiated a proteomic analysis of a wild-type *V. cholerae* El Tor strain N16961 after 48 hours in low Pi (TGLP) containing DOC 0.2%, at 37°C. The culture was separated in planktonic (free cells) and biofilm (adhered bacteria) and lysates of both cell types were separated by two dimensional gel electrophoresis (2D) at a pH range 4-7 and SDS-polyacrilamide gel (12.5%). Most proteins on the gels presented pIs between 4.5-6.5 and Mr from 97-20 KDa. Comparative analysis of the 2D electrophoretic patterns showed many proteins expressed differentially by the cell types. Those were excised from the gels, trypsin digested, analyzed by mass spectrometry (MALDI-TOF) and identified in the *vibrio* sps databank entries. Most of the proteins differentially expressed identified are related to the cell maintenance, stress response and biofilm formation.