

A Survey for Glycated Proteins of *Gluconacetobacter diazotrophicus* by Proteomics Approach –Glycomics.

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Gluconacetobacter diazotrophicus (Gd) is a N₂ fixing, gram-negative bacteria found as endophyte in sugarcane. The mechanism by which bacteria enter sugarcane has not been established conclusively. An invading agent enhances the plant production of released exopolysaccharides. However, recognition of a compatible endophyte usually involves selective glycoproteins that specifically bind to a bacterial cell wall ligand. This ability of sugarcane glycoproteins to bind the cell wall of *G. diazotrophicus* is the first step of the biological discrimination of a compatible interaction, symbiotic endophyte, therefore resembling a vegetal mechanism of specific tolerance. Thus, we carried out an experimental assay to evaluate glycoprotein profile. To perform it, proteins were extracted with extraction buffer from Gd, growth in Digs medium, by sonication. The lysated was centrifuged and the supernatant was used for protein analysis. Our 1D electrophoresis results showed that Gd produces glycoproteins ranging from 10 to 160kDa besides low molecular weight glycopeptides when stained by PAS methodology. We purified 3 glycoproteins by affinity chromatography with lectin Con A with mass 20, 33 and 37kDa evidencing glycation with manose. Our 2D electrophoresis showed that some glycoproteins migrated together to the acid region. Another glycoproteins with different masses presented pI ranging from 4.8 to 7. Some selected glycoproteins were prepared to analysis under mass spectrometer MALDI-TOF-TOF to further identification. Studies of these glycoproteins are necessary to better understand their role in the interaction sugarcane Gd in the future.