Water deficit and abscisic acid treatments increase the expression of a glucomannan mannosyltransferase gene (GMMT) in Aloe vera Burm. F.

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 The main polysaccharide of the gel present in the leaves of or Aloe vera Burm.F., (Aloe barbadensis Miller) a xerophytic crassulacean acid metabolism (CAM) plant, is an acetylated glucomannan named acemannan. This polysaccharide is responsible for the succulence of the plant, helping it to retain water. In this study we determined using polysaccharide analysis by carbohydrate gel electrophoresis (PACE) that the acemannan is a glucomannan without galactose side branches. We also investigated the expression of the gene responsible for acemannan backbone synthesis, encoding a glucomannan mannosyltransferase (GMMT, EC 2.4.1.32), since there are no previous reports on GMMT expression under water stress in general and specifically in Aloe vera. It was found by in silico analyses that the GMMT gene belongs to the cellulose synthase-like A type-9 (CSLA9) subfamily. Using RT-qPCR it was found that the expression of GMMT increased significantly in Aloe vera plants subjected to water stres