

## PRELIMINARY CRYSTALLIZATION STUDIES OF MAIZE ALDOSE REDUCTASE

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Aldose reductase (AR; EC 1.1.1.21) is a member of the aldo-keto reductase superfamily. The enzyme, a monomeric oxidoreductase with broad substrate specificity, which probably adopts a TIM-barrel fold, catalyzes the reduction of aldehydes, ketones and other substrates using NADPH as reducing cofactor. In humans, the protein is involved in severe diabetic complications and exhibits considerable flexibility in relation to its active site, with the conformation of active site residues depending on the size and properties of the ligand. In plants, the function of AR is not clearly known. In seed embryo, it may be important for the detoxification of aldehydes that might react with free amino groups. Recently, we identified an AR in the maize EST database, which was expressed in *E. coli* and purified by immobilized metal affinity chromatography. In this work, we report preliminary crystallization studies of maize AR. Several crystal forms were obtained in different conditions. Improvement of crystals and x-ray diffraction analysis are in course. These studies will be important for better understanding of the enzymatic mechanism and may provide insights into the AR function in cereal seeds.