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Author	Lisa Kvist Wadman
Title (English)	Aldose reductase in relation to diabetes-induced embryopathy in rats
Title (Swedish)	
Abstract	<p>Aldose reductase (AR) is the rate-limiting enzyme of the polyol pathway, in which glucose is transformed to fructose via sorbitol. Several studies have indicated that an increase in the flux through the polyol pathway is responsible for the development of secondary diabetic complications. The aim of this study was to elucidate if a hyperactivated polyol pathway is associated with diabetes-induced birth defects as well. Enzyme activity, gene expression, and protein distribution of AR were determined in rat embryos of gestational day 10 and 11, subjected to a normal or a diabetic environment. The results suggest that genetic differences in or close to the gene of AR might be responsible for the enhanced susceptibility to diabetes-induced birth defects. One possible hypothesis is that the genotype eliciting diabetes-induced malformations acts by augmenting not the gene expression but the AR protein stability, and thereby also the enzymatic capacity.</p>
Keywords	Aldose reductase, polyol pathway, diabetes, congenital malformations
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