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Titel des Beitrags: Drosophila alpha-1,4-glycosyltransferase (alpha-4GT1) inhibits reaper-mediated apoptosis in the eye.

Abstract: In a genetic screen, alpha-4GT1 has been identified as a potential enhancer of Hairless-mediated cell death in the eye of Drosophila. alpha-4GT1 encodes an alpha-1,4-glycosyltransferase, known to catalyze the fifth step in a series of ceramide glycosylation events. As reported for other enzymes involved in the glycosylation of ceramide, alpha-4GT1 is strongly expressed during oogenesis and is deposited maternally in the egg. Moreover, the protein is enriched at cell membranes. Unexpectedly, overexpression of alpha-4GT1 does not enhance Hairless-mediated cell death; instead, Hairless enhancement is caused by an allele of Scutoid present on the alpha-4GT1 chromosome. Interestingly, the downregulation of alpha-4GT1 during eye development amplifies cell death induction by the pro-apoptotic gene reaper. Accordingly, overexpression of alpha-4GT1 represses reaper-induced cell death. Thus, alpha-4GT1 appears to be an inhibitor of apoptosis, as has previously been observed for other ceramide glycosylating enzymes, suggesting that it likewise contributes to ceramide anchoring in the membrane.

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