ST6GAL 1 May Play a Role in Preventing Death by Irradiation After Chemotherapy

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High rates of mortality are associated with low rates of stem cell regeneration in the intestine post irradiation. Low cell self-renewal is also associated with numerous terminal gastrointestinal diseases. Previous publications have demonstrated that sialylation by ST6GAL-1 protects against radiation-induced apoptosis in vivo. However, the mechanism behind this process is not fully understood, nor is the role of other intestinal niche factors. Here, I explore the effect of ST6GAL-1 on intestinal stem cell regeneration, in both basal and irradiated tissue, and the relationship between self-renewal and other sialylative proteins associated with ST6GAL-1 such as e-cadherin and beta-catenin. These new insights into stem cell regulation and fate specification could aid the development of therapies that exploit the regenerative capacity and functionality of the intestine.

Awards Won: