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Phospholipase Cγ1 links inflammation and tumorigenesis in colitis-associated cancer

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Colorectal cancer is linked to inflammation and phospholipase C 1 (PLC γ1) is associated with tumorigenesis and the development of colorectal cancer; however, evidence of mechanisms connecting them remains unclear. Here we found that PLC γ1 regulated colitis and tumorigenesis in intestinal epithelial cells (IEC). In a colitis-associated cancer model, we showed that the deletion of PLC γ1 in IEC decreased the incidence of tumors by enhancing apoptosis and inhibiting proliferation during tumor development. Accordingly, the deletion of PLC γ1 in IEC reduced colitis-induced epithelial inflammation via inhibition of pro-inflammatory cytokines and mediators. The PLC γ1 pathway in IEC accelerated colitis-induced epithelial damage via regulation of tight junction (TJ) proteins. Our findings suggest that PLC γ1 is a critical regulator of colitis and colorectal cancer and could further help in the development of therapy for colitis-associated cancer.

Biography

Kwangil Park has been conducted the "An effect of anti-inflammatory and anti-cancer by natural products". He investigated the compounds and extract isolated from natural products modulate on transcription and translation pathway, and using the mechanism underlying its action.

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