

Mechanisms of collagen secretion regulated by circadian rhythm

Kota Saito

Akita University, Graduate School of Medicine

Proteins synthesized within the ER is exported via COPII-coated vesicles to the Golgi for secretion. We have found that TANGO1 is not only collagen cargo receptor at ER exit sites but it organizes the formation of ER exit site via interacting with Sec16. In this analysis, we have found that TANGO1 is phosphorylated by casein kinase 1 and dephosphorylated by PP1 in a cell-cycle dependent manner and the phosphorylation regulates the organization of ER exit sites. CK1 activity is involved in the regulation of circadian rhythm, so that our analysis would lead to the future investigation on the regulation of collagen secretion with circadian rhythm.