Articles of Significant Interest in This Issue

Bridging the (IQ)GAP in Liver Cancer

The factors underlying uncontrolled cellular proliferation are complex. Multiple networks impinge on cellular growth and mitogenic processes, highlighting the importance of scaffold proteins like IQ motif-containing GTPase-activating protein 1 (IQGAP1). Inhibition of IQGAP1 has been shown to protect against tumorigenesis in prior studies. Delgado et al. (e00596-20), however, show that IQGAP1 deletion does not prevent diethylnitrosamine-mediated chemical carcinogenesis in the mouse liver. Furthermore, IQGAP1 was found to accelerate liver tumorigenesis when overexpressed with beta-catenin and MET. The authors show that YAP activation and MET signals contribute to proliferation in the presence and absence of IQGAP1, respectively. Thus, too little or too much IQGAP1 expression may contribute to the development of liver cancer.

Vitamin K-Dependent γ-Carboxylase in Sertoli Cells Is Required for Sperm Formation and Fertility

Vitamin K (VK) is a nutrient that promotes blood coagulation and bone formation, although its actions in other tissues remain obscure. Gamma-glutamyl carboxylase (GGCX) is a VK-dependent enzyme that converts glutamate to γ-carboxylated glutamate in its target proteins. Shiba et al. (e00404-20) show that mice lacking Ggcx specifically in testicular supporting Sertoli cells (Ggcx scKO) exhibit male infertility with seminiferous tubule and sperm abnormalities. Notably, the testicular localization of connexin 43 (Cx43) is distorted in Ggcx scKO mice, and infertility in these mice is rescued by Cx43 overexpression. These findings show that VK and GGCX play important roles for in male fertility by preparing a proper environment for spermatogenesis in testes.