Adenylate cyclase activity in Xenopus laevis ovarian follicles

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An adenylate cyclase activity was identified and characterized in preparations from Xenopus laevis ovarian tissue and follicles. The enzyme is more active in the presence of Mn2+ than of Mg2+, and it is highly activated by fluoride, guanyl-5?-yl-imidodiphosphate [Gpp(NH)p] and cholera toxin. During the last stages of oogenesis, as the oocytes grow in volume, the total adenylate cyclase activity increases more than tenfold, maintaining a constant relationship to the surface area of the follicle.