

E805 Gonadotropin-Releasing
Hormone Activates the Rat
Secretogranin II gene Through a
Protein Kinase A pathway in
gonadotrope T3-1 cells

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In order to investigate the molecular event involved in the rat SgII gene expression, 0.8-kilobase rSgII promoter-luciferase (Luc) reporter gene constructs were transiently transfected into gonadotrope-derived T3-1 cells. 5'-deletion analysis showed that a cAMP-responsive element (CRE) located at -87 to -56 bp is essential for GnRH-dependent rSgII transactivation. Electrophoretic mobility shift assay and DNaseI foot-printing assay also confirmed that consensus CRE is bound by nuclear protein, most likely CREB. The observation that DNA region responsible for GnRH responsiveness can be co-localized with CRE suggests that the action of GnRH on rSgII transcription are mediated primarily by the protein kinase A (PKA) pathway in T3-1 cell line.