



Figure 4. Schematic diagram of the pathways through which dopamine activates ERK1/2 and CREB. Dopamine binds to D1 and D5 receptors on the cell membrane, activating Gq11 and Gi13. Gq11 activates PLC- β , which produces IP₃ and DAG. Gi13 activates PI3K, which activates Akt and p115RhoGEF. DAG activates PKC. PLC- β , PKC, Akt, and p115RhoGEF activate ERK1/2. Activated ERK1/2 enters the nucleus and phosphorylates CREB. Activated CREB binds to DNA to regulate gene expression.