CREATIVE BIOMART®
Assay Kit

CRE/CREB Reporter Kit (cAMP/PKA Signaling Pathway)

Product Information

Cat.No. Kit-1709

Product Overview

The main role of the cAMP response element, or CRE, is mediating the effects of Protein Kinase A (PKA) by way of transcription. It is the main binding site of CREB and is responsible for its activation. CRE is at the focus of many extracellular and intracellular signaling pathways, including cAMP, calcium, GPCR (G-protein coupled receptors) and neurotrophins. The cAMP/PKA signaling pathway is critical to numerous life processes and living organisms. In the cAMP/PKA signaling pathway, CREB is activated via phosphorylation of PKA and binds to CRE with a general motif of 5''-TGACGTCA-3''. Since CRE is a modulator of the cAMP/PKA signaling pathway, it allows the effects of various inhibitors to be studied.

Size

500 reactions

Description

The CRE/CREB Reporter kit is designed for monitoring the activity of the cAMP/PKA signaling pathway in cultured cells. The kit contains transfection-ready CRE luciferase reporter. This reporter contains the firefly luciferase gene under the control of multimerized cAMP response element (CRE) located upstream of a minimal promoter. Elevation of the intracellular cAMP level activates cAMP response element binding protein (CREB) to bind CRE and induces the expression of luciferase. The CRE reporter is premixed with constitutively-expressing Renilla (sea pansy) luciferase vector that serves as an internal control for transfection efficiency. The kit also includes a non-inducible firefly luciferase vector premixed with the constitutivelyexpressing Renilla luciferase vector as a negative control. The non-inducible luciferase vector contains the firefly luciferase gene under the control of a minimal promoter, but without any additional response elements. The negative control is critical to determining pathway-specific effects and background luciferase activity.

Applications

Monitor the JNK signaling pathway activity and AP1-mediated activity.Screen for activators or inhibitors of the JNK signaling pathway.Study effects of RNAi or gene overexpression on the activity

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of the JNK pathway.

Storage
Stable at least 12 months from date of receipt, when stored as directed (-20°C)
Kit Components
Reporter (Component A): CRE luciferase reporter vector + constitutively expressing Renilla luciferase vector; 500 µl (60 ng DNA/µl); -20°C Negative Control Reporter (Component B): Non-inducible luciferase vector + constitutively expressing Renilla luciferase vector; 500 µl (60 ng DNA/µl); -20°C

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