CREATIVE BIOMART®
Assay Kit

AP1 Reporter Kit (JNK Pathway)

Product Information

Cat.No. Kit-1679

Product Overview

The stress-activated protein kinase/c-jun N-terminal kinase (SAPK/JNK) family of proteins includes mitogen-activated protein kinases (MAPKs) that are activated by stress, inflammatory cytokines, mitogens, oncogenes, and inducers of cell differentiation and morphogenesis. Upon activation of the SAPK/JNK pathway, MAP Kinase Kinases phosphorylate and activate JNKs. The activated JNKs translocate to the nucleus where they phosphorylate and activate transcription factors such as c-Jun. The activated c-Jun forms homodimers or heterodimers with fos family proteins which bind to the activator protein-1(AP1) response element and induce target gene transcription.

Size

500 reactions

Description

The AP1 Reporter Kit is designed for monitoring the activity of the JNK signaling pathway and the transcriptional activity of AP1 in cultured cells. The kit contains a transfection-ready AP1 luciferase reporter vector. This reporter contains the firefly luciferase gene under the control of multimerized AP1 responsive elements located upstream of a minimal promoter. The AP1 reporter is premixed with a 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 constitutively-expressing Renilla luciferase vector as a negative control. The non-inducible luciferase vector contains the firefly luciferase gene under the control of a minimal promoter, without any additional response elements. The negative control is critical for determining pathway-specific effects and the background luciferase activity.

Applications

Monitor cAMP/PKA signaling pathway activity. Screen for activators or inhibitors of PKA or cAMP/PKA pathway components. Study effects of RNAi or gene overexpression on the activity of the cAMP/PKA pathway.

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Storage

Stable at least 12 months from date of receipt, when stored as directed (-20°C)

Kit Components

Reporter (Component A): AP1 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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