

CRE-Luc/HEK293

CBP74027

Contents

I. Background.....	1
II. Description.....	1
III. Introduction.....	2
IV. Description of Host Cell Line.....	2
V. Representative Data.....	3



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I. Background

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 cAMP response element binding protein (CREB) and is responsible for its activation. CRE is the target 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 in 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.

II. Description

The cAMP/PKA Signaling Pathway CRE/CREB Reporter (Luc) – HEK293 Cell Line is designed for monitoring the activity of the cAMP/PKA signaling pathway. The cAMP/PKA Signaling Pathway CRE/CREB Reporter (Luc) – HEK293 Cell Line contains a firefly luciferase gene



under the control of multimerized cAMP response element (CRE) stably integrated into HEK293 cells. Elevation of the intracellular cAMP level activates cAMP response element binding protein (CREB) to bind CRE and induces the expression of luciferase.

III. Introduction

Host Cell: HEK293

Expressed gene: CRE-Luciferase

Stability: 32 passages (in-house test, that not means the cell line will be instable beyond the passages we tested.)

Synonym(s): CRE cell line, CREB cell line, luciferase reporter

Freeze Medium: 90% FBS+10% DMSO

Culture Medium: DMEM+10%FBS+150ug/ml hygromycin

Mycoplasma Testing: Negative

Storage: Liquid nitrogen

Application(s):

- Monitor cAMP/PKA signaling pathway activity.
- Screen for activators or inhibitors of the cAMP/PKA signaling pathway.

IV. Description of Host Cell Line



Organism: Human

Tissue: Embryonic kidney

Disease: Normal

Morphology: Epitheloid

Growth Properties: Adherent

V. Representative Data

Induction of CRE activity by forskolin in CRE-Luc reporter HEK293 cells

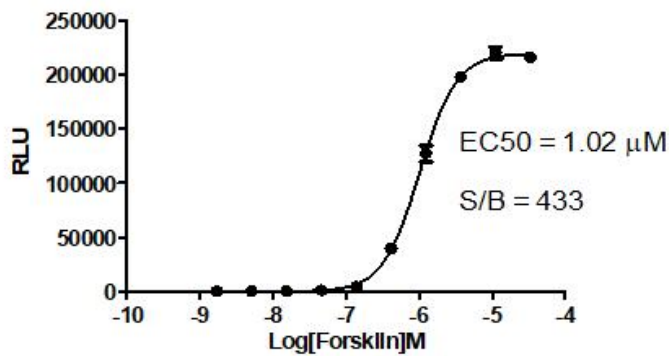


Figure 1. Detect Luciferase assay by Ultra Luciferase Detection Kit CBPH0001 (we strongly suggest to purchase from Cobioer). HEK293/CRE Luciferase Reporter cells were stimulated by Forskolin, the S/B was 433-fold.

