

# Signal Reporter Assay Kit

## ATF6 Reporter Assay Kit

Cat. no. 336841 CCS-9031L

### For study of pathway activity

The Signal ATF6 Reporter Assay Kit is designed to measure the transcriptional activity of KLF4. Activating Transcription Factor 6, ATF6 is a member of class of AP-1 transcription factor dimers. It acts during endoplasmic reticulum stress by activating unfolded protein response target genes. Active ATF6 is implicated in a number of disease states including myocardial infarction, atherosclerosis, neurodegenerative diseases (i.e. Alzheimer's), Charcot-Marie Tooth Disease, Cystic Fibrosis, and cancers. Scientists have also demonstrated the utility of ATF6 as a novel biomarker for immune cell tumors. ATF6 also plays role in cellular adaptation and homeostasis. The ATF6 reporter is designed to measure the transcriptional activity of ATF6. The ATF6 reporter is a mixture of a ATF6-responsive luciferase construct and a constitutively expressing Renilla luciferase construct (40:1). The ATF6-responsive luciferase construct encodes the firefly luciferase reporter gene under the control of a minimal (m)CMV promoter and tandem repeats of the ATF6 transcriptional response element. The number of response elements and the intervening sequence between these response elements has been experimentally optimized to maximize the signal to noise ratio. The ATF6 reporter construct monitors both increases and decreases in the transcriptional activity of ATF6, and hence the activity of the hedgehog signaling. The constitutively expressing Renilla luciferase construct encodes the Renilla luciferase reporter gene under the control of a CMV immediately early enhancer/promoter and acts as an internal control for normalizing transfection efficiencies and monitoring cell viability. Using a simple dual-luciferase assay, scientists can easily monitor the activity of ATF6 and determine the effect of various treatments, such as gene knockdown, over-expression, and chemical compounds.

For further details, consult the *Signal Reporter Assay Handbook*.

### Shipping and storage

The Signal Reporter Assay Kit is shipped on dry ice or blue ice. Store at  $-20^{\circ}\text{C}$ . When stored under these conditions, this product can be used for 6 months from the date of receipt without reduction in performance.

**Note:** Open the package and store the products appropriately immediately on receipt.

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## Performance data

Visit the Website to view performance data for this product.



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## Contents

Product	Contents	Cat. no.
Signal Reporter Assay Kit	For 500 reporter assays, 500 negative control assays, and 250 positive control assays when using the recommended 96-well plate transfection protocol; 500 $\mu$ l (100 ng/ $\mu$ l) Reporter (40:1 mixture of inducible firefly luciferase construct and constitutively expressing Renilla luciferase construct); 500 $\mu$ l (100 ng/ $\mu$ l) Negative control (40:1 mixture of non-inducible firefly luciferase construct and constitutively expressing Renilla luciferase construct); 250 $\mu$ l (100 ng/ $\mu$ l) Positive control (40:1:1 mixture of constitutively expressing GFP, constitutively expressing firefly luciferase, and constitutively expressing Renilla luciferase constructs)	Varies

Signal Reporter Assay Kit products are intended for molecular biology applications. These products are not intended for the diagnosis, prevention, or treatment of a disease.

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