

# Cignal Reporter Assay Kit

## SMAD Reporter Assay Kit

Cat. no. 336841 CCS-017L

### For study of pathway activity

The Cignal SMAD Reporter Assay Kit is designed to monitor the activity of the TGF $\beta$ -induced signal transduction pathway in cultured cells. The transforming growth factor  $\beta$  (TGF $\beta$ ) signaling pathway is involved in many cellular processes, including cell cycle arrest, differentiation, homeostasis, and immunosuppression. TGF $\beta$  signaling induces phosphorylation and activation of the SMAD2 and SMAD3 proteins, which then form complexes with the mediator SMAD4. These SMAD complexes then translocate to the nucleus, where they activate the expression of TGF $\beta$ -responsive genes. The SMAD reporter is a mixture of an inducible SMAD-responsive luciferase construct and a constitutively expressing Renilla construct (40:1). The SMAD-responsive luciferase construct encodes the firefly luciferase reporter gene under the control of a minimal (m)CMV promoter and tandem repeats of the SMAD Binding Element (SBE). We have experimentally optimized the number of response elements as well as the intervening sequence between response elements to maximize the signal to noise ratio. The constitutively expressing Renilla 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, you can easily monitor the activity of SMAD-mediated signaling pathways and determine the effect of various treatments, such as gene knockdown, over-expression, and chemical compounds on those pathways.

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

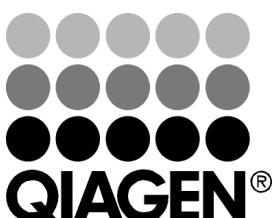
### Shipping and storage

The Cignal 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.

### Performance data

Visit the Website to view performance data for this product.



## 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 µl (100 ng/µl) Reporter (40:1 mixture of inducible firefly luciferase construct and constitutively expressing Renilla luciferase construct); 500 µl (100 ng/µl) Negative control (40:1 mixture of non-inducible firefly luciferase construct and constitutively expressing Renilla luciferase construct); 250 µl (100 ng/µl) 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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Sample & Assay Technologies