

Signal Reporter Assay Kit

XRE Reporter Assay Kit

Cat. no. 336841 CCS-2045L

For study of pathway activity

The Signal Xenobiotic Response (XRE) Reporter Assay Kit measures the activity of AhR signaling pathway. The Aryl hydrocarbon receptor (AhR) is a cytosolic transcription factor that is normally inactive, bound to several co-chaperones. Upon ligand binding, the chaperones dissociate resulting in AhR translocating into the nucleus and dimerizing with ARNT (AhR nuclear translocator), leading to changes in gene transcription. The classical recognition motif of the AhR/ARNT complex, referred to as Xenobiotic Responsive Element (XRE). Activation of AhR signaling leads to the induction of xenobiotic metabolizing enzymes such as CYP1A1, CYP1A2, CYP1B1, NQO1, ALDH3A1, UGT1A2 and GSTA1 and thereby act as a indication of toxic response. The XRE reporter is a mixture of an AhR-responsive luciferase construct and a constitutively expressing Renilla element (40:1). The AhR-responsive luciferase construct encodes the firefly luciferase reporter gene under the control of a minimal (m)CMV promoter and tandem repeats of the XRE transcriptional response element. The number of response elements as well as the intervening sequence between response elements have been experimentally optimized to maximize the signal to noise ratio. This reporter monitors both increases and decreases in the transcriptional activity of AhR. The constitutively expressing Renilla element 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 measure Ahr signaling to determine the effect of various treatments, such as gene knockdown, over-expression, and chemical compounds on this pathways.

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°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.



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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 μ l (100 ng/ μ l) Reporter (40:1 mixture of inducible firefly luciferase construct and constitutively expressing Renilla luciferase construct); 500 μ l (100 ng/ μ l) Negative control (40:1 mixture of non-inducible firefly luciferase construct and constitutively expressing Renilla luciferase construct); 250 μ l (100 ng/ μ 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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