

Signal Reporter Assay Kit

AARE Reporter Assay Kit

Cat. no. 336841 CCS-8034L

For study of pathway activity

The Signal AARE (amino acid response element) Reporter Assay Kit is designed to measure the activity of Amino Acid Response (AAR) pathway. The signaling pathway that is triggered in response to amino acid deprivation is referred to as the AAR pathway. Following amino acid depletion, the GCN2 (general control non-derepressible-2) kinase is activated and phosphorylates the translation initiation factor eIF2 α (eukaryotic initiation factor 2 α), which increase translation of ATF4 (activating transcription factor 4). The activated ATF4 (as well as ATF3 and ATF2) binds to AARE and regulate the expression of target genes. The AARE reporter is a mixture of an AARE-responsive luciferase construct and a constitutively expressing Renilla luciferase construct (40:1). The AARE-responsive luciferase construct encodes the firefly luciferase reporter gene under the control of a minimal (m)CMV promoter and tandem repeats of the AARE 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 AARE reporter construct monitors both increases and decreases in the activity of AAR pathway. 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, you can easily monitor the activity of AAR pathway 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°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.



Sample & Assay Technologies

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 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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