

HEK293 Wnt TCF Reporter Cell Line-Mutant

Keep Frozen
Below – 80°C

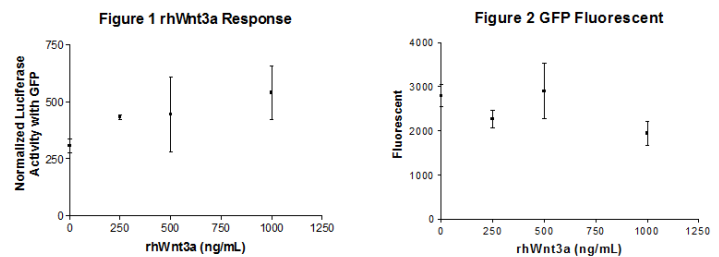
Catalog Number: WRHEK293M
Source: Human embryonic kidney cell line
Synonyms: Wnt reporter, TCF reporter, LEF reporter cell line
Background: The WNT gene family consists of structurally related genes that encode secreted signaling proteins, membrane bound receptors, and signaling transduction proteins. These proteins have been implicated in oncogenesis, adipogenesis, etc. and in several other developmental processes, including regulation of cell fate and patterning during embryogenesis. Activity of the Wnt signaling pathway leads to nuclear translocation of β -catenin and the formation of TCF transcription factor complex. The TCF complex interacts with Wnt gene transcriptional response elements and leads to the expression of Wnt-responsive genes.

Product Description

This Wnt reporter cell line is a control cell line, designed to show background luciferase activity for HEK293 Wnt TCF Reporter Cell Line-Active (Cat: WRHEK293A). This human embryonic kidney cell line hosts CMV promoter, tandem repeats of a mutant TCF transcriptional response element, luciferase gene, and GFP gene. GFP expressed constantly can serve as control of cell numbers.

Activity:

This Wnt reporter cell line expresses low luciferase. The luciferase activity does not increase in response to Wnt3a stimulation at 1000 ng/mL (Fig. 1). Endogenous GFP expression from this Wnt reporter cell line is shown in Figure 2.



Mycoplasma

Negative. Detection Kit: Mycoplasma Detection Kit (PCR) from Southern biotech

Handling and Storage

The cell line may be shipped in dry ice or RT in either 25 cm² flask or 15 mL tube. If the cell line is shipped in dry ice, after receiving, store cells at -80°C or in Liquid Nitrogen or culture under standard culture conditions. The cells should be cultured in complete EMEM medium (Corning Ref: 10-010-CV plus 1 mM sodium pyruvate, Penicillin-Streptomycin (100 U/mL), and 10 % of fetal bovine serum).

Luc Assay

Using normal tissue culture-treated plate: Seed 0.5 mL of cells into each well of 24 wells plate at a density of 10×10^4 cells/mL in complete EMEM medium, incubate cell at 5% CO₂, 37°C incubator overnight, replace complete EMEM with 198 μ L EMEM without serum, add 2 μ L of control buffer or Wnt3a (concentration range: 0.06 to 1 μ g/mL), mix well and return plate into 5% CO₂, 37°C incubator and continue to incubate for 6 to 8 hours, suction out medium, lyse cells with 0.2 mL of cell lysis buffer (Promega, Cat: E1941), incubate for 10 min on rocking shaker at room temperature, transfer 50 μ L of cell lysate from each well into the wells of a 96 well black plate and add 50 μ L of lysis buffer into three wells of the same plate as fluorescent background, read fluorescent first, and then add 50 μ L of Luciferase substrate (Promega, Cat: E2610) into each well, read Luciferase activity within 15 min. Fluorescent reading can serve as control of cell numbers.

Reference

Molenaar M. XTcf-3 transcription factor mediates beta-catenin-induced axis formation in Xenopus embryos. *Cell*. 1996; 86:391-9
Xing-Yao LI. A reporter gene system for screening inhibitors of Wnt signaling pathway. *Nat. Prod. Bioprospect*. 2013; 3: 24–28

