# 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.

Figure 1 rhWnt3a Response

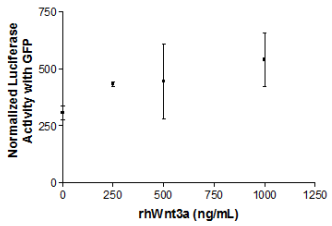
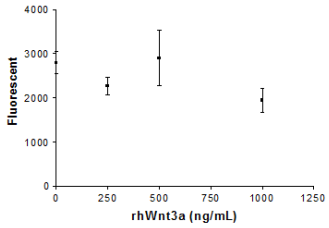



Figure 2 GFP Fluorescent




**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 $cm^2$ 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, 100 U/mL Penicillin-Streptomycin, 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 x $10^4$ cells/mL in complete EMEM medium, incubate cell at 5% $CO_2$, 37°C incubator overnight, replace complete EMEM with 198 µL EMEM without serum, add 2 µL of control buffer or Wnt3a (concentration range: 0.06 to 1 µg/mL), ,mix well and return plate into 5% $CO_2$, 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 µL of cell lysate from each well into the wells of a 96 well black plate and add 50 µL of lysis buffer into three wells of the same plate as fluorescent background, read fluorescent first, and then add 50 µL 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



Time Bioscience, LLC Address: 60 Prescott St. Worcester, MA 01605
Tel: 617-319-2278 Email: info@timebioscience.com