ERBB4 E452K (NRG1b Dependent)/BaF3

CBP73258

Contents

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I. Introduction

Cell Line Name: ERBB4 E452K (NRG1b Dependent)/BaF3

Host Cell：Ba/F3

Stability: 16 passages (in-house test, that not means the cell line will be instable beyond the passages we tested.)

Application: Anti-proliferation assay and PD assay

Freeze Medium: 90% FBS+10% DMSO

Complete Culture Medium: RPMI-1640+10%FBS+10ng/ml NRG1-beta1

Mycoplasma Status: Negative

II. Background

Approximately 3–7% of lung tumors harbor ALK fusions (Koivunen et al. 2008; Kwak et al. 2010; Shinmura et al. 2008; Soda et al. 2007; Takeuchi et al. 2008; Wong et al. 2009). ALK fusions are more commonly found in light smokers (< 10 pack years) and/or never-smokers (Inamura et al. 2009; Koivunen et al. 2008; Kwak et al. 2010; Soda et al. 2007; Wong et al. 2009). ALK fusions are also associated with younger age (Inamura et al. 2009; Kwak et al. 2010; Wong et al. 2009) and adenocarcinomas with acinar histology (Inamura et al. 2009; Wong et al. 2009) or signet-ring cells (Kwak et al. 2010). Clinically, the presence of EML4-ALK fusions is associated with EGFR tyrosine kinase inhibitor (TKI) resistance (Shaw

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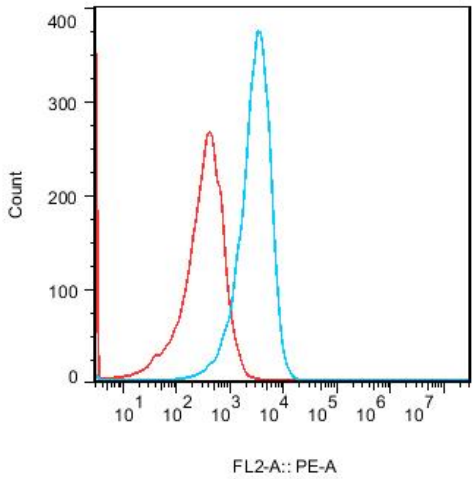
et al. 2009).Multiple different ALK rearrangements have been described in NSCLC. The majority of these ALK fusion variants are comprised of portions of the echinoderm microtubule-associated protein-like 4 (EML4) gene with the ALK gene. At least nine different EML4-ALK fusion variants have been identified in NSCLC (Figure 1; Choi et al. 2008; Horn and Pao 2009; Koivunen et al. 2008; Soda et al. 2007; Takeuchi et al. 2008; Takeuchi et al. 2009; Wong et al. 2009). In addition, non-EML4 fusion partners have also been identified, including KIF5B-ALK (Takeuchi et al. 2009) and TFG-ALK (Rikova et al. 2007). Clinically, the presence of an ALK rearrangement is detected by fluorescence in situ hybridization (FISH) with an ALK break apart probe. FISH testing is not able to discern which particular ALK fusion is found in a clinical sample.

III. Representative Data

1. ERBB4 E452K (NRG1b Dependent)/BaF3



	Population Name	Mean , FL2-A
	BaF3-ERBB4-E452K+anti-ERBB4-PE	3440
	BaF3+anti-ERBB4-PE	377

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2. Anti-proliferation assay

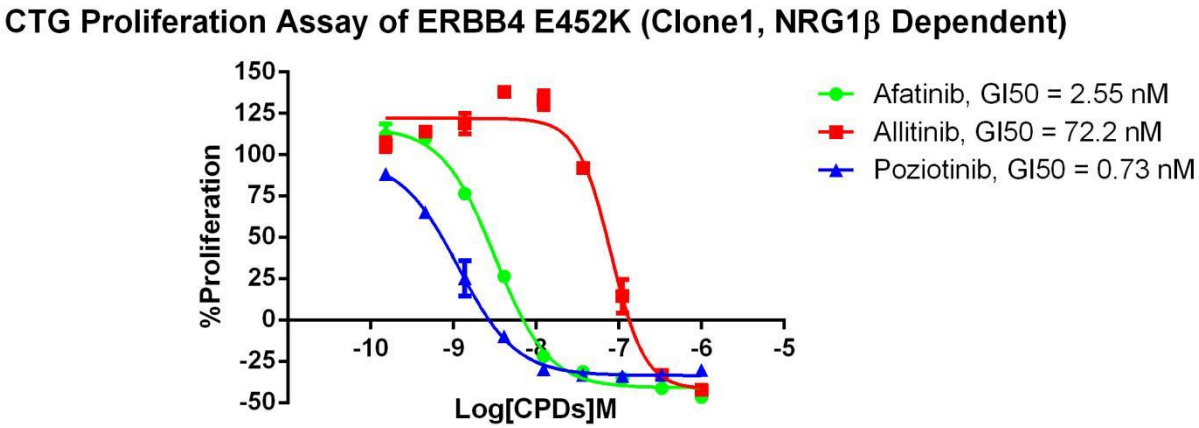

Figure 2. Anti-proliferation assay of two reference compounds on the ERBB4 E452K (NRG1b Dependent)/BaF3 Stable Cell line.

IV. Handling Procedure for Flask Cultures

The flask was seeded with cells grown and completely filled with medium at Cobioer.

1. Upon receipt visually examine the culture for macroscopic evidence of any microbial contamination.

Using an inverted microscope (preferably equipped with phasecontrast optics), carefully check for any evidence of microbial contamination.

2. Incubate the flask in an upright position for several hours at 37°C. After the temperature has equilibrated, aseptically remove the entire contents of the flask and centrifuge at 1000 rpm for 5 minutes.Remove shipping medium and save for reuse.Resuspend the cell pellet in 10 ml of this medium.

3. From this cell suspension remove a sample for a cell count and viability.Adjust the cell density of the suspension to $3*10^5$viable cells/ml in the shipping medium.

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4. Incubate the culture, horizontally at 37°C in a 5% CO_2 in air atmosphere. Maintain the cell density of the culture as suggested under the subculture procedure.

V. Subculturing Procedure

Cultures can be maintained by the addition of fresh medium or replacement of medium. Alternatively, cultures can be established by centrifugation with subsequent resuspension at $3*10^5$ viable cells/mL. Do not allow the cell density to exceed $2*10^6$ cells/mL.

Interval: Maintain cultures at a cell concentration between $3*10^5$ and $2*10^6$ viable cells/mL.

Medium Renewal: Add fresh medium every 2 to 3 days (depending on cell density)

VI. Cryopreservation Procedure

1.Transfer cell suspension(4-$8*10^6$ cells) to a centrifuge tube and spin at approximately 1000rpm for 5 minutes.

2. Discard supernatant and resuspend cells in cryopreservation medium(90% FBS+10%DMSO).

3. Transfer the cells into Freezing Tube, 1ml/vial.

4. Place Freezing Tube in a Frosty container that is kept at room temperature and has sufficient isopropanol.

5. Place the Frosty container into the -80°C freezer overnight.

6. On next day, transfer the vials into liquid nitrogen.

VII. Performing the Anti-proliferation Assay

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1. Materials to Be Supplied by the User

- Compounds to be tested
- RPMI-1640 (Gibco #C11875500CP)
- FBS (Gibco #10099-141C)
- DMSO
- CellTiter-Glo® Luminescent Cell Viability Assay (Promega, Cat.No.: G7573)
- 96 Well Assay Plate (White Plate, Clear Bottom with Lid Tissue Culture Treated Polystyrene 1/Pack, Corning #3610)
- T25 Flask
- 96 Well Storage Microplate(Corning#3357)
- Synergy H1 Hybrid Multi-Mode Reader(Biotek)

2. Protocol for the Anti-proliferation Assay

1) Take logarithmic growth cells, centrifuge and discard the culture supernatant, resuspend the centrifuged cells in fresh RPMI-1640+10%FBS medium.

2) Inoculate the resuspended cells into a 96-well cell culture plate with a white wall and transparent bottom, 100ul/well of cell suspension, inoculate two culture plates, and place in a 37°C cell incubator for overnight culture.

3) The next day, take one of the 96-well plates inoculated with cells, add 100ul/well cell titer glo detection reagent and leave it for 60 minutes, read the value, and define it as G0 data.

4) Take another parallel plate, and take 11.1 ul/well of compound from the previously diluted 10*compound concentration dilution plate to this plate , And set up another DMSO control well, continue to incubate in a

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37°C cell incubator for 72 hours.

5) Take out the 96-well plate that has been treated with the compound for 72 hours from the incubator, add 100ul/well cell titer glo detection reagent and leave it for 60 minutes, read the value, and define it as G3 data.

6) Calculate the cell proliferation rate corresponding to each well according to the following formula %Proliferation = (Test compound well G3-G0 average value) / (DMSO control well G3 average value-G0 average value)*100.

7) According to the corresponding proliferation rate and concentration of each gradient concentration hole, use Prism Graphpad5.0 software to fit the gradient curve of cell proliferation, and calculate the GI50 of the compound (GI50 is defined as the corresponding compound concentration when the cell proliferation rate is 50% , The fitting formula in the software is as follows: Y=Bottom + (Top-Bottom)/(1+10^((LogIC50-X)*HillSlope)).

VIII. References

1. ERBB4 mutations that disrupt the neuregulin-ErbB4 pathway cause amyotrophic lateral sclerosis type 19. (PMID: 24119685) Takahashi Y … Tsuji SAmerican journal of human genetics 2013 3 4 72

2. Identification of neuroglycan C and interacting partners as potential susceptibility genes for schizophrenia in a Southern Chinese population.(PMID: 19367581) So HC … Sham PC American journal of medical genetics. Part B, Neuropsychiatric genetics : the official publication of the International Society of Psychiatric Genetics 2010 3 22 40

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3．Somatic mutations of ErbB4: selective loss-of-function phenotype affecting signal transduction pathways in cancer. (PMID: 19098003) Tvorogov D … Elenius K The Journal of biological chemistry 2009 3 4 22

4．WW domain containing E3 ubiquitin protein ligase 1 targets the full-length ErbB4 for ubiquitin-mediated degradation in breast cancer. (PMID: 19561640) Li Y … Chen C Oncogene 2009 3 4 22

5．Analysis of the tyrosine kinome in melanoma reveals recurrent mutations in ERBB4. (PMID: 19718025) Prickett TD … Samuels Y Nature genetics 2009

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