abcam

Product datasheet

Human NDUFA13 (GRIM19) knockout HeLa cell line ab265863

5 Images

Overview

Product name	Human NDUFA13 (GRIM19) knockout HeLa cell line
Parental Cell Line	HeLa
Organism	Human
Mutation description	Knockout achieved by using CRISPR/Cas9, 2 bp deletion in exon 2 and 73 bp insertion in exon 2 and 8 bp deletion in exon 2
Passage number	<20
Knockout validation	Sanger Sequencing, Western Blot (WB)
Tested applications	**Suitable for:** WB
Biosafety level	2
General notes	**Recommended control:** Human wild-type HeLa cell line (**ab255928**). Please note a wild-type cell line is not automatically included with a knockout cell line order, if required please add recommended wild-type cell line at no additional cost using the code WILDTYPE-TMTK1. **Cryopreservation cell medium:** Cell Freezing Medium-DMSO Serum free media, contains 8.7% DMSO in MEM supplemented with methyl cellulose. **Culture medium:** DMEM (High Glucose) + 10% FBS **Initial handling guidelines:** Upon arrival, the vial should be stored in liquid nitrogen vapor phase and not at -80°C. Storage at -80°C may result in loss of viability. 1. Thaw the vial in 37°C water bath for approximately 1-2 minutes. 2. Transfer the cell suspension (0.8 mL) to a 15 mL/50 mL conical sterile polypropylene centrifuge tube containing 8.4 mL pre-warmed culture medium, wash vial with an additional 0.8 mL culture medium (total volume 10 mL) to collect remaining cells, and centrifuge at 201 x g (rcf) for 5 minutes at room temperature. 10 mL represents minimum recommended dilution. 20 mL represents maximum recommended dilution. 3. Resuspend the cell pellet in 5 mL pre-warmed culture medium and count using a haemocytometer or alternative cell counting method. Based on cell count, seed cells in an appropriate cell culture flask at a density of $2x10^4$ cells/cm^2. Seeding density is given as a guide only and should be scaled to align with individual lab schedules. 4. Incubate the culture at 37°C incubator with 5% CO_2. Cultures should be monitored daily. **Subculture guidelines:** All seeding densities should be based on cell counts gained by established methods.

A guide seeding density of $2x10^4$ cells/cm^2 is recommended.
A partial media change 24 hours prior to subculture may be helpful to encourage growth, if required.
Cells should be passaged when they have achieved 80-90% confluence.
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We will provide viable cells that proliferate on revival.

Properties

Number of cells	1 x 10^6 cells/vial, 1 mL
Adherent /Suspension	Adherent
Tissue	Cervix
Cell type	epithelial
Disease	Adenocarcinoma
Gender	Female
STR Analysis	Amelogenin X D5S818: 11, 12 D13S317: 12, 13.3 D7S820: 8, 12 D16S539: 9, 10 vWA: 16, 18 TH01: 7 TPOX: 8,12 CSF1PO: 9, 10
Antibiotic resistance	Puromycin 1.00µg/ml
Mycoplasma free	Yes
Storage instructions	Shipped on Dry Ice. Store in liquid nitrogen.
Storage buffer	Constituents: 8.7% Dimethylsulfoxide, 2% Cellulose, methyl ether

Target

Function	Accessory subunit of the mitochondrial membrane respiratory chain NADH dehydrogenase (Complex I), that is believed not to be involved in catalysis. Complex I functions in the transfer of electrons from NADH to the respiratory chain. The immediate electron acceptor for the enzyme is believed to be ubiquinone. Involved in the interferon/all-trans-retinoic acid (IFN/RA) induced cell death. This apoptotic activity is inhibited by interaction with viral IRF1. Prevents the transactivation of STAT3 target genes. May play a role in CARD15-mediated innate mucosal responses and serve to regulate intestinal epithelial cell responses to microbes.
Tissue specificity	Widely expressed, with highest expression in heart, skeletal muscle, liver, kidney and placenta. In intestinal mucosa, down-regulated in areas involved in Crohn disease and ulcerative colitis.
Involvement in disease	Defects in NDUFA13 may be a cause of susceptibility to Hurthle cell thyroid carcinoma (HCTC) [MIM:607464]. Hurthle cell thyroid carcinoma accounts for approximately 3% of all thyroid cancers. Although they are classified as variants of follicular neoplasms, they are more often multifocal and somewhat more aggressive and are less likely to take up iodine than are other follicular neoplasms.
Sequence similarities	Belongs to the complex I NDUFA13 subunit family.
Developmental stage	Expressed in numerous fetal tissues.
Cellular localization	Mitochondrion inner membrane. Nucleus. May be translocated into the nucleus upon IFN/RA treatment.

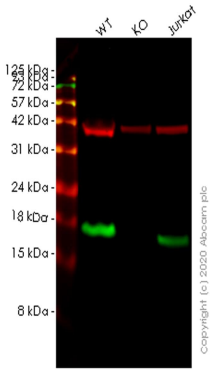
Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab265863 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		Use at an assay dependent concentration. Predicted molecular weight: 17 kDa.

Images



Western blot - Human NDUFA13 knockout HeLa cell line (ab265863)

All lanes : Anti-GRIM19 antibody [EPR4471(2)] (**ab109017**) at 1/1000 dilution

Lane 1 : Wild-type HeLa cell lysate
Lane 2 : NDUFA13 knockout HeLa cell lysate
Lane 3 : Jurkat cell lysate

Lysates/proteins at 20 µg per lane.

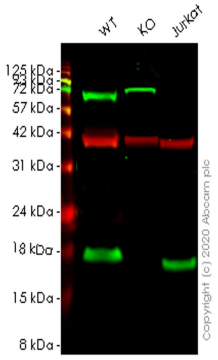
Secondary
All lanes : Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (**ab216773**) at 1/10000 dilution

Predicted band size: 17 kDa
Observed band size: 17 kDa

Lanes 1-3: Merged signal (red and green). Green - **ab109017** observed at 17 kDa. Red - loading control **ab8245** observed at 36 kDa.

ab109017 Anti-GRIM19 antibody [EPR4471(2)] was shown to specifically react with GRIM19 in wild-type HeLa cells. Loss of signal was observed when knockout cell line ab265863 (knockout cell lysate **ab257136**) was used. Wild-type and GRIM19 knockout samples were subjected to SDS-PAGE. **ab109017** and Anti-GAPDH antibody [6C5] - Loading Control (**ab8245**) were incubated overnight at 4°C at 1 in 1000 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (**ab216773**) and Goat anti-Mouse

IgG H&L (IRDye® 680RD) preadsorbed (**ab216776**) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.



Western blot - Human NDUFA13 knockout HeLa cell line (ab265863)

All lanes : Anti-GRIM19 antibody [6E1BH7] (**ab110240**) at 1/1000 dilution

Lane 1 : Wild-type HeLa cell lysate
Lane 2 : NDUFA13 knockout HeLa cell lysate
Lane 3 : Jurkat cell lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (IRDye® 680RD) preadsorbed (**ab216777**) at 1/10000 dilution

Predicted band size: 17 kDa
Observed band size: 17 kDa

Lanes 1-3: Merged signal (red and green). Green - **ab110240** observed at 17 kDa. Red - loading control **ab181602** observed at 36 kDa.

ab110240 GRIM19 antibody [6E1BH7] was shown to specifically react with GRIM19 in wild-type HeLa cells. Loss of signal was observed when knockout cell line ab265863 (knockout cell lysate **ab257136**) was used. Wild-type and GRIM19 knockout samples were subjected to SDS-PAGE. **ab110240** and Anti-GAPDH antibody[EPR16891] - Loading Control (**ab181602**) were incubated overnight at 4°C at 1 in 1000 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 680RD) preadsorbed (**ab216777**) and Goat anti-Mouse IgG H&L (IRDye® 800CW) preadsorbed (**ab216772**) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

Sanger Sequencing - Human NDUFA13 knockout HeLa cell line (ab265863)

Allele-1: 8 bp deletion in exon 2.

Sanger Sequencing - Human NDUFA13 knockout HeLa cell line (ab265863)

Allele-2: 2 bp deletion in exon 2.

Sanger Sequencing - Human NDUFA13 knockout HeLa cell line (ab265863)

Allele-3: 73 bp insertion in exon 2.

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