abcam

Product datasheet

Human ABL1 knockout HeLa cell line ab265612

3 Images

Overview

Product name	Human ABL1 knockout HeLa cell line
Parental Cell Line	HeLa
Organism	Human
Mutation description	Knockout achieved by using CRISPR/Cas9, 1 bp deletion in exon 3 and 1 bp insertion in exon 3
Passage number	<20
Knockout validation	Sanger Sequencing
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
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	Protein kinase that regulates key processes linked to cell growth and survival. Regulates cytoskeleton remodeling during cell differentiation, cell division and cell adhesion. Localizes to dynamic actin structures, and phosphorylates CRK and CRKL, DOK1, and other proteins controlling cytoskeleton dynamics. Regulates DNA repair potentially by activating the proapoptotic pathway when the DNA damage is too severe to be repaired. Phosphorylates PSMA7 that leads to an inhibition of proteasomal activity and cell cycle transition blocks.
Tissue specificity	Widely expressed.
Involvement in disease	Note=A chromosomal aberration involving ABL1 is a cause of chronic myeloid leukemia. Translocation t(9;22)(q34;q11) with BCR. The translocation produces a BCR-ABL found also in acute myeloid leukemia (AML) and acute lymphoblastic leukemia (ALL).
Sequence similarities	Belongs to the protein kinase superfamily. Tyr protein kinase family. ABL subfamily. Contains 1 protein kinase domain. Contains 1 SH2 domain. Contains 1 SH3 domain.
Post-translational modifications	Phosphorylated by PRKDC (By similarity). DNA damage-induced activation of c-Abl requires the function of ATM and Ser-446 phosphorylation (By similarity). Phosphorylation on Thr-735 is required for binding 14-3-3 proteins for cytoplasmic translocation. Isoform IB is myristoylated on Gly-2.
Cellular localization	Cytoplasm > cytoskeleton. Nucleus. Sequestered into the cytoplasm through interaction with 14-3-3 proteins and Nucleus membrane. The myristoylated c-ABL protein is reported to be nuclear.

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab265612 in the following tested applications.

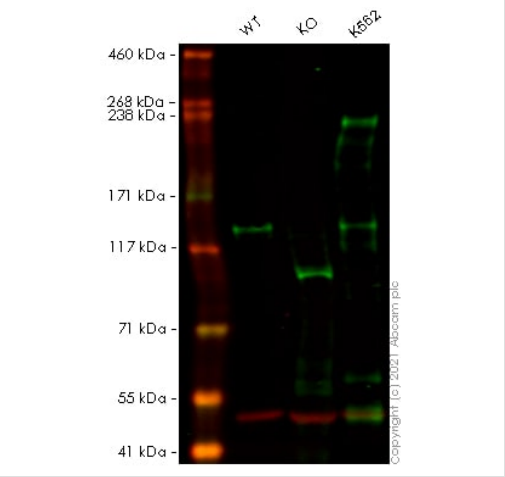
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		Use at an assay dependent concentration.

Images

Sanger Sequencing - Human ABL1 knockout HeLa cell line (ab265612)

Allele-1: 1 bp deletion in exon 3.



Western blot - Human ABL1 knockout HeLa cell line (ab265612)

All lanes : Anti-ABL1 antibody [EPR23406-32] (**ab254341**) at 1/1000 dilution

Lane 1 : Wild-type HeLa cell lysate
Lane 2 : ABL1 knockout HeLa cell lysate
Lane 3 : K562 cell lysate

Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Observed band size: 130 kDa

Lanes 1 - 3: Merged signal (red and green). Green - **ab254341** observed at 130 kDa. Red - loading control, **ab7291** (Mouse anti-Alpha Tubulin [DM1A]) observed at 55 kDa.

ab254341 was shown to react with ABL1 in wild-type HeLa cells in western blot. The bands observed in ABL1 knockout cell line ab265612 (ABL1 knockout cell lysate **ab263077**) below 130 kDa may represent truncated forms and cleaved fragments. This has not been investigated further. HeLa wild-type and ABL1 knockout cell lysates were subjected to SDS-PAGE. Membranes were blocked in 3% milk in TBS-T (0.1 % Tween®) before incubation with **ab254341** and **ab7291** (Mouse anti-Alpha Tubulin [DM1A]) overnight at 4°C at

a 1:1000 dilution and a 1:20000 dilution respectively. Blots were incubated with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (**ab216773**) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (**ab216776**) secondary antibodies at 1:20000 dilution for 1 h at room temperature before imaging.

Sanger Sequencing - Human ABL1 knockout HeLa cell line (ab265612)

Allele-2: 1 bp insertion in exon 3.

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