

# Human NDRG1 knockout HEK-293T cell line ab267301

3 Images

### Overview

Product name	Human NDRG1 knockout HEK-293T cell line
Parental Cell Line	HEK293T
Organism	Human
Mutation description	Knockout achieved by using CRISPR/Cas9, Homozygous: 1 bp insertion in exon 3
Passage number	<20
Knockout validation	Sanger Sequencing, Western Blot (WB)
Tested applications	<b>Suitable for:</b> WB
Biosafety level	2
General notes	<p><b>Recommended control:</b> Human wild-type HEK293T cell line (<a href="#">ab255449</a>). 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.</p> <p><b>Cryopreservation cell medium:</b> Cell Freezing Medium-DMSO Serum free media, contains 8.7% DMSO in MEM supplemented with methyl cellulose.</p> <p><b>Culture medium:</b> DMEM (High Glucose) + 10% FBS</p> <p><b>Initial handling guidelines:</b> 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.</p> <ol style="list-style-type: none"> <li>1. Thaw the vial in 37°C water bath for approximately 1-2 minutes.</li> <li>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.</li> <li>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 <math>2 \times 10^4</math> cells/cm<sup>2</sup>. Seeding density is given as a guide only and should be scaled to align with individual lab schedules.</li> <li>4. Incubate the culture at 37°C incubator with 5% CO<sub>2</sub>. Cultures should be monitored daily.</li> </ol> <p><b>Subculture guidelines:</b></p> <p>All seeding densities should be based on cell counts gained by established methods. A guide seeding density of <math>2 \times 10^4</math> cells/cm<sup>2</sup> is recommended.</p> <p>A partial media change 24 hours prior to subculture may be helpful to encourage growth, if required.</p>

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

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<b>Number of cells</b>	1 x 10 <sup>6</sup> cells/vial, 1 mL
<b>Adherent /Suspension</b>	Adherent
<b>Tissue</b>	Kidney
<b>Cell type</b>	epithelial
<b>STR Analysis</b>	Amelogenin X D5S818: 8, 9 D13S317: 12, 14 D7S820: 11 D16S539: 9, 13 vWA: 16, 19 TH01: 7, 9.3 TPOX: 11 CSF1PO: 11, 12
<b>Antibiotic resistance</b>	Puromycin 1.00µg/ml
<b>Mycoplasma free</b>	Yes
<b>Storage instructions</b>	Shipped on Dry Ice. Store in liquid nitrogen.
<b>Storage buffer</b>	Constituents: 8.7% Dimethylsulfoxide, 2% Cellulose, methyl ether

## Target

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<b>Function</b>	May have a growth inhibitory role.
<b>Tissue specificity</b>	Ubiquitous; expressed most prominently in placental membranes and prostate, kidney, small intestine, and ovary tissues. Reduced expression in adenocarcinomas compared to normal tissues. In colon, prostate and placental membranes, the cells that border the lumen show the highest expression.
<b>Involvement in disease</b>	Defects in NDRG1 are the cause of Charcot-Marie-Tooth disease type 4D (CMT4D) [MIM:601455]; also known as hereditary motor and sensory neuropathy Lom type (HMSNL). CMT4D is a recessive form of Charcot-Marie-Tooth disease, the most common inherited disorder of the peripheral nervous system. Charcot-Marie-Tooth disease is classified in two main groups on the basis of electrophysiologic properties and histopathology: primary peripheral demyelinating neuropathy and primary peripheral axonal neuropathy. Demyelinating CMT neuropathies are characterized by severely reduced nerve conduction velocities (less than 38 m/sec), segmental demyelination and remyelination with onion bulb formations on nerve biopsy, slowly progressive distal muscle atrophy and weakness, absent deep tendon reflexes, and hollow feet. By convention, autosomal recessive forms of demyelinating Charcot-Marie-Tooth disease are designated CMT4.
<b>Sequence similarities</b>	Belongs to the NDRG family.
<b>Cellular localization</b>	Cytoplasm. Nucleus. Cell membrane. Whereas in prostate epithelium and placental chorion it is located in both the cytoplasm and the nucleus, nuclear staining is not observed in colon epithelium cells. Instead its localization changes from the cytoplasm to the plasma membrane during differentiation of colon carcinoma cell lines in vitro.

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## Applications

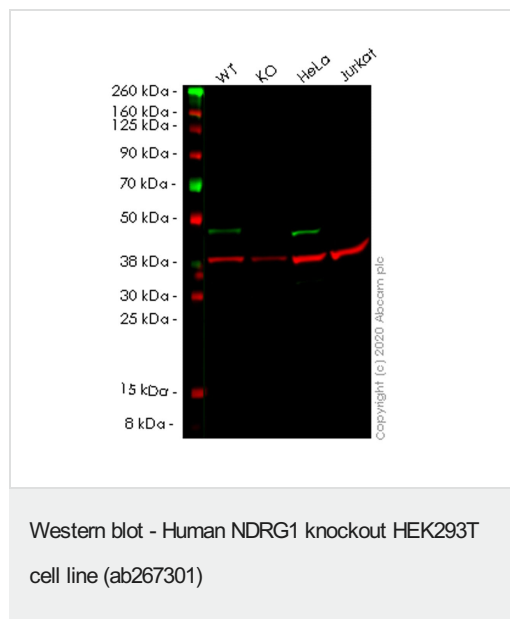
## The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab267301 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: 43 kDa.

## Images



**All lanes :** Anti-NDRG1 antibody [EPR5593] (**ab124689**) at 1/1000 dilution

**Lane 1 :** Wild-type HEK-293T (Human epithelial cell line from embryonic kidney transformed with large T antigen) whole cell lysate

**Lane 2 :** NDRG1 knockout HEK-293T (Human epithelial cell line from embryonic kidney transformed with large T antigen) whole cell lysate

**Lane 3 :** HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate

**Lane 4 :** Jurkat (Human T cell leukemia cell line from peripheral blood) whole 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:** 43 kDa

**Observed band size:** 43 kDa

**Lanes 1-4:** Merged signal (red and green). Green - **ab124689** observed at 43 kDa. Red - loading control **ab8245** observed at 36 kDa.

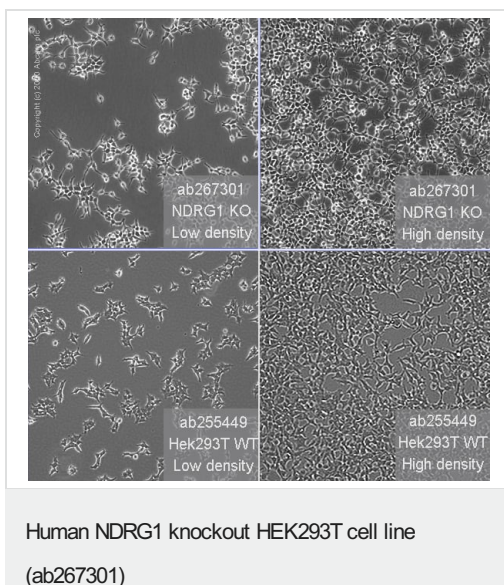
**ab124689** Anti-NDRG1 antibody [EPR5593] was shown to specifically react with NDRG1 in wild-type HEK-293T cells. Loss of signal was observed when knockout cell line ab267301 (knockout cell lysate **ab257551**) was used. Wild-type and NDRG1 knockout samples were subjected to SDS-PAGE. **ab124689** and 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.

Mut GCTGCCCGTCCTGCTGGCCAGGGGCGTCCACGTGGCAGACGGCAAAGTGCTGGTGAT  
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 WT GCTGCCCGTCCTGCTGGCCAGGGGCGTCCACGTGGCAGACGGCAAAGTGCTGGTGAT

Sanger Sequencing - Human NDRG1 knockout  
 HEK293T cell line (ab267301)

Homozygous: 1 bp insertion in exon3



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