

Product sheet

MDCK (NBL-2) | 602280

MDCK (NBL-2)

**Description**

MDCK (Madin-Darby Canine Kidney) is a cell line derived from a 7-month-old dog, which was infected with a virus. The cells were first established in 1966 and are now widely used in research. MDCK cells are epithelial cells that form a polarized monolayer. They are used for the study of cell-cell interactions, cell polarity, and the effects of various drugs and toxins. MDCK cells are also used for the production of vaccines and for the study of viral replication. MDCK cells are highly resistant to trypsin digestion and are therefore easy to maintain in culture. MDCK cells are also highly resistant to various antibiotics and antifungal agents. MDCK cells are a valuable tool for studying the effects of various drugs and toxins on epithelial cells.

**Organism** Dog

**Tissue** Kidney

**Synonyms** MDCK, NBL-2, Madin-Darby Canine Kidney, Madin Darby Canine Kidney

Characteristics

**Breed/Subspecies** Dog

**Age** 7 months

**Gender** Male

**Morphology** Epithelial

**Cell type** Epithelial

**Growth properties** Adherent, Epithelial

References

**Citation** MDCK (NBL-2) (ATCC CCL-21) | Cytion 602280

**Biosafety level** 1

**NCBI\_TaxID** 9615

**CellSaurusAccession** CVCL\_0422

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**General Information**

<b>Virus susceptibility</b>	Adenovirus (Ad5, Ad26), Herpesvirus, Influenza B5, Rotavirus 2, 3, SARS-CoV-2 4, 5, Zika virus
<b>Virus resistance</b>	Adenovirus 2, Influenza B3, B4
<b>Reverse transcriptase</b>	None
<b>Products</b>	None

**Media**

<b>Culture Medium</b>	DMEM:Ham's F12 (1:1), w: 3.1 g/L Glucose, w: 2.5 mM L-Glutamine, w: 15 mM HEPES, w: 0.5 mM Sodium Pyruvate, w: 1.2 g/L NaHCO3 820400a)
<b>Supplements</b>	Insulin Transferrin 10% FBS
<b>Dissociation Reagent</b>	None
<b>Subculturing</b>	Cells are cultured in DMEM:Ham's F12 (1:1) supplemented with 10% FBS. For subculturing, cells are trypsinized with 0.25% trypsin-EDTA in PBS, washed with PBS, and resuspended in DMEM:Ham's F12 (1:1) supplemented with 10% FBS. Cells are seeded into T25 flasks at a density of 1 x 10^4 cells per flask.
<b>Seeding density</b>	1 x 10^4 cells/flask
<b>Fluid renewal</b>	3 times
<b>Post-Thaw Recovery</b>	After thawing, cells are seeded into T25 flasks at a density of 1 x 10^4 cells per flask. Media is replaced after 24 hours.
<b>Freeze medium</b>	DMEM:Ham's F12 (1:1) supplemented with 10% FBS + 10% DMSO

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**Thawing and Culturing Cells**

1. Thaw the vial rapidly in a water bath at 37°C. Do not allow the cells to reach room temperature. Transfer the cells to a pre-warmed T25 flask containing 10 ml of DMEM supplemented with 10% FBS.
2. Incubate the cells in a humidified atmosphere of 5% CO<sub>2</sub> at 37°C until they reach 70-80% confluency.
3. Remove the FBS and replace it with DMEM supplemented with 10% FBS. Incubate the cells for 24 hours to allow them to attach to the flask.
4. Wash the cells with PBS and replace the medium with DMEM supplemented with 10% FBS.
5. Pass the cells into a T75 flask when they reach 70-80% confluency. Use 15 ml of medium for T75 flasks and 8 ml for T25 flasks.
6. Harvest the cells by trypsinization. Add 3 ml of trypsin to the flask and incubate for 3-5 minutes at 37°C. Add 10 ml of DMEM supplemented with 10% FBS to stop the trypsinization.
7. Seed the cells into a T25 flask containing 10 ml of DMEM supplemented with 10% FBS. Incubate the cells in a humidified atmosphere of 5% CO<sub>2</sub> at 37°C until they reach 70-80% confluency.
8. Harvest the cells by trypsinization. Add 3 ml of trypsin to the flask and incubate for 3-5 minutes at 37°C. Add 10 ml of DMEM supplemented with 10% FBS to stop the trypsinization.

**Incubation Atmosphere** 37°C, 5% CO<sub>2</sub>, humidified

**Flask Coating** No

**Freezing Procedure** Harvest cells by trypsinization and resuspend in DMEM supplemented with 10% FBS. Add 10% DMSO and freeze at -80°C.

**Shipping Conditions** Store at -80°C. Ship on dry ice.

**Storage Conditions** Store at -150°C for up to 196 months.

### MDCK (NBL-2) / MDCK (NBL-2) / HLA

**Sterility** The cells are free of mycoplasmas and PCR detectable. The cells are free of endotoxins.