

MDCK (NBL-2) | 602280

General information

Description	MDCK (Madin-Darby Canine Kidney) is a cell line derived from a 15-month-old male beagle dog. It is a continuous cell line that grows in the presence of serum. MDCK cells are used for the production of viral vaccines, particularly for the production of rabies virus. MDCK cells are also used for the study of cell differentiation and cell-cell interactions. MDCK cells are highly resistant to many viruses, including the rabies virus. MDCK cells are also used for the study of the effects of various drugs and chemicals on cell growth and differentiation.
Organism	Canine
Tissue	Kidney
Synonyms	MDCK, NBL-2, Madin-Darby Canine Kidney, Madin Darby Canine Kidney

Cell characteristics

Breed/Subspecies	Canine
Age	15 months
Gender	Male
Morphology	Epithelial cells
Cell type	Epithelial cells
Growth properties	Adherent, serum dependent

Documentation and references

Citation	MDCK (NBL-2) (Cytion 602280)
Biosafety level	1
NCBI_TaxID	9615
CellosaurusAccession	CVCL_0422

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MDCK (NBL-2) - Background

Virus susceptibility	Adenovirus (Adenovirus), Rotavirus, Influenza B5, Influenza 2, 3, Influenza 4, 5, Influenza A, Influenza B
Virus resistance	Influenza 2, Influenza B3, B4
Reverse transcriptase	Reverse transcriptase
Products	MDCK

MDCK

Culture Medium	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)
Supplements	MDCK 10% FBS
Dissociation Reagent	Trypsin
Subculturing	MDCK cells are grown in DMEM:Ham's F12 (1:1) supplemented with 10% FBS. Cells are passaged using Trypsin. Cells are seeded in 24-well plates at a density of 1 x 10 ⁴ cells/well. Cells are grown for 24 hours before use.
Seeding density	1 x 10 ⁴ cells/well
Fluid renewal	MDCK 3 days
Post-Thaw Recovery	MDCK cells are thawed in a water bath at 37°C. Cells are seeded in 24-well plates at a density of 1 x 10 ⁴ cells/well. Cells are grown for 24 hours before use.
Freeze medium	MDCK cells are grown in DMEM:Ham's F12 (1:1) supplemented with 10% FBS. Cells are passaged using Trypsin. Cells are seeded in 24-well plates at a density of 1 x 10 ⁴ cells/well. Cells are grown for 24 hours before use.

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Thawing and
Culturing Cells

1. 将细胞冻存管放入 37°C 水浴中快速解冻，然后将细胞悬液转移到含有 2 ml 完全培养基的细胞培养瓶中，轻轻混匀。
2. 将细胞培养瓶放入 37°C 培养箱中，静置 24 小时，使细胞贴壁。
3. 24 小时后，将细胞培养瓶中的培养基更换为新鲜完全培养基。
4. 当细胞汇合度达到 70% 以上时，可进行传代。
5. 将细胞培养瓶中的培养基离心（1500 rpm，5 分钟），弃去上清液，加入 1 ml 胰酶消化液，37°C 消化 2 分钟。
6. 加入 1 ml 含血清培养基终止消化，用吸管吹打细胞，制成单细胞悬液。
7. 将细胞悬液离心（1500 rpm，5 分钟），弃去上清液，加入 1 ml 完全培养基，制成细胞悬液。
8. 将细胞悬液接种到含有 2 ml 完全培养基的细胞培养瓶中，轻轻混匀。

Incubation
Atmosphere

37°C, 5% CO₂, 饱和湿度

Flask Coating

无需涂层

Freezing
Procedure

将细胞悬液离心（1500 rpm，5 分钟），弃去上清液，加入 1 ml 冻存液，轻轻混匀。将细胞悬液分装到冻存管中，放入 -80°C 冰箱冻存。

Shipping
Conditions

将细胞冻存管放入干冰中，密封后放入保温箱中，在 -78°C 条件下运输。

Storage
Conditions

细胞冻存管可在 -150°C 以下长期保存，有效期 196 个月。使用前请进行复苏实验。

细胞鉴定与质量控制

Sterility

细胞冻存管在出厂前经过严格的无菌检测，符合 PCR 级无菌标准。使用前请进行无菌检测。

细胞冻存管在运输过程中保持密封，确保无菌。使用前请进行无菌检测。