Product sheet

HEK293 EBNA Cells | 300264

General information

Description	The HEK293 EBNA cell line is a derivative of the original HEK293 line, which itself was derived from human embryonic kidney cells grown in tissue culture. This particular subline was engineered to stably express the Epstein-Barr virus nuclear antigen-1 (EBNA-1). The expression of EBNA-1 allows for the episomal replication of plasmids that carry the EBV origin of replication, making HEK293 EBNA cells particularly valuable for the production of recombinant proteins and for gene expression studies involving episomal vectors. HEK293 EBNA cells retain many of the characteristics of the parent HEK293 cells, including their adherence to cell culture plastic and their robust growth in standard mammalian cell culture media. The addition of EBNA-1 expands their utility in research and biotechnological applications, as it enhances the cells? ability to propagate plasmids with the EBV origin of plasmid replication. This feature is critical for producing stable, high-yield recombinant proteins, which is essential for both research purposes and industrial-scale production.
Organism	Human
Tissue	Embryonic kidney
Synonyms	HEK293-EBNA, 293 c18, 293c18, HEK 293 c18, HEK-293 c18, HEK293-EBNA1, HEK-293-EBNA, HEK 293-EBNA, HEK 293 EBNA, HEK293EBNA, 293 EBNA, 293-EBNA1, 293-EBNA, 293/EBNA, 293EBNA, EBNA-293, EBNA293, HEK293E, HEK/EBNA, HEK-EBNA, HEK.EBNA, 293/EBNA-1

Characteristics

Age	Fetus
Gender	Female
Morphology	Epithelial
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	HEK293 EBNA (Cytion catalog number 300264)
Biosafety level	2

Expression / Mutation

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Antigen expression	EBNA1
Viruses	Adenovirus 5 (Transformant), EBV (expresses EBNA1)

Handling

Culture Medium	DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 1.5 g/L NaHCO3, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)
Medium supplements	Supplement the medium with 10% FBS
Passaging solution	Accutase
Subculturing	Remove the old medium from the adherent cells and wash them with PBS that lacks calcium and magnesium. For T25 flasks, use 3-5 ml of PBS, and for T75 flasks, use 5-10 ml. Then, cover the cells completely with Accutase, using 1-2 ml for T25 flasks and 2.5 ml for T75 flasks. Let the cells incubate at room temperature for 8-10 minutes to detach them. After incubation, gently mix the cells with 10 ml of medium to resuspend them, then centrifuge at 300xg for 3 minutes. Discard the supernatant, resuspend the cells in fresh medium, and transfer them into new flasks that already contain fresh medium.
Freeze medium	CM-1 (Cytion catalog number 800100)

Handling of cryopreserved cultures

1. Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
2. Upon receipt, either store the cryovial immediately at temperatures below -150°C to ensure the preservation of cellular integrity, or proceed to step 3 if immediate culturing is required.
3. For immediate culturing, swiftly thaw the vial by immersing it in a 37°C water bath with clean water and an antimicrobial agent, agitating gently for 40-60 seconds until a small ice clump remains.
4. Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
5. Carefully open the disinfected vial and transfer the cell suspension into a 15 ml centrifuge tube containing 8 ml of room-temperature culture medium, mixing gently.
6. Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
7. Gently resuspend the cell pellet in 10 ml of fresh culture medium. For adherent cells, divide the suspension between two T25 culture flasks; for suspension cultures, transfer all the medium into one T25 flask to promote effective cell interaction and growth.
8. Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

Quality control / Genetic profile / HLA

Sterility

Mycoplasma contamination is excluded using both PCR-based assays and luminescence-based mycoplasma detection methods.

To ensure there is no bacterial, fungal, or yeast contamination, cell cultures are subjected to daily visual inspections.