Product sheet

AAV-293 Cells | 305127

General information

Description	The AAV-293 cell line is a permanent line established from primary embryonic human kidney transformed with human adenovirus type 5 DNA. The genes encoded by the E1 region of adenovirus (E1a and E1b) are expressed in these cells and participate in transactivation of viral promoters, allowing these cells to produce high levels of protein. AAV-293 is derived from the parental 293 cell line, through cloning and multiple rounds of testing, AAV-293 is specifically selected for a high level of AAV production in a helper-free system. It offers several advantages over the regular 293 cells: Larger cell surface area resulting higher transfection and better yield of AAV. The advantages are a flattened morphology, firm attachment to culture plate, and the cells are ideal for large-scale culture and AAV production. Adeno-associated virus (AAV) belongs to the family of Parvoviridae, a group of viruses among the smallest of single-stranded and non-enveloped DNA viruses. There are nine different AAV serotypes reported to date. AAV can infect both dividing and non-dividing cells and can be maintained in the human host cell, creating the potential for long-term gene transfer. Recombinant AAV-2 is the most common serotype used in gene delivery, and can be produced at high titers with a helper virus or AAV-293 cells.
Organism	Human
Tissue	Embryonic kidney
Synonyms	AAV293

Characteristics

Age	Fetus
Gender	Female
Morphology	Epithelial
Growth properties	Adherent

Regulatory Data

Citation	AAV-293 (Cytion catalog number 305127)
Biosafety level	1

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NCBI_TaxID	9606
CellosaurusAccession	CVCL_6871

Biomolecular Data

Handling

Culture Medium	DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 3.7 g/L NaHCO3, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)
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.
Split ratio	1:3 to 1:5
Fluid renewal	2 to 3 times per week
Freeze medium	As a cryopreservation medium, use complete growth medium (including FBS) + 10% DMSO for adequate post-thaw viability, or CM-1 (Cytion catalog number 800100), which includes optimized osmoprotectants and metabolic stabilizers to enhance recovery and reduce cryo-induced stress.

Quality Control & Molecular Analysis

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.