Product sheet

HEC-1-A Cells | 305077

General information

Description	HEC-1-A cells are a well-characterized human endometrial adenocarcinoma cell line derived from the malignant tissue of a 71-year-old Caucasian woman. This cell line, established in the mid-1970s, is extensively used in gynecological cancer research, particularly for studying endometrial carcinoma. Morphologically, HEC-1-A cells are epithelial-like and form a monolayer of polygonal cells when cultured. They exhibit a robust and adherent growth pattern, which is typical of epithelial cells originating from solid tumors. The morphological characteristics of HEC-1-A cells make them a valuable model for studying cellular behaviors that are central to cancer progression, such as adhesion, migration, and invasion. Genotypically, HEC-1-A cells harbor several genetic aberrations that are relevant to cancer biology, including mutations in key regulatory genes like p53 and PTEN, both of which are commonly mutated in endometrial cancer. These genetic features contribute to the cells' utility in researching the molecular underpinnings of endometrial carcinogenesis and the cellular pathways leading to tumor growth and resistance to therapy. Research using HEC-1-A cells has significantly advanced our understanding of endometrial cancer, particularly in terms of hormonal influences, genetic mutations, and responses to chemotherapeutic agents. As a result, this cell line continues to be instrumental in developing more effective diagnostic and therapeutic strategies for endometrial carcinoma.
Organism	Human
Tissue	Uterus, endometrium
Disease	Endometrial adenocarcinoma
Synonyms	Hec-1-A, HEC-1A, HEC1-A, HEC1A, Hec1A

Characteristics

Age	71 years
Gender	Female
Ethnicity	Asian
Morphology	Epithelial
Growth properties	Adherent

Regulatory Data

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Citation	HEC-1-A (Cytion catalog number 305077)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_0293

Biomolecular Data

Receptors expressed	Receptor expression: platelet activating factor(PAF)
Protein expression	Oncogenes: C-Fos
Antigen expression	Blood Type B, Rh
Tumorigenic	Yes

Handling

Culture Medium	McCoys 5a, w: 3.0 g/L Glucose, w: stable Glutamine, w: 2.0 mM Sodium pyruvate, w: 2.2 g/L NaHCO3 (Cytion article number 820200a)
Supplements	Supplement the medium with 10% FBS
Dissociation Reagent	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.
Fluid renewal	2 to 3 times per week
Freeze medium	As a cryopreservation medium, we 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.

Thawing and Culturing Cells	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.
Incubation Atmosphere	37°C, 5% CO_2, humidified atmosphere.
Shipping Conditions	Cryopreserved cell lines are shipped on dry ice in validated, insulated packaging with sufficient refrigerant to maintain approximately −78 °C throughout transit. On receipt, inspect the container immediately and transfer vials without delay to appropriate storage.
Storage Conditions	For long-term preservation, place vials in vapor-phase liquid nitrogen at about −150 to −196 °C. Storage at −80 °C is acceptable only as a short interim step before transfer to liquid nitrogen.

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.