Product sheet

HEC-1-B Cells | 305095

General information

Description	The HEC-1-B cell line is a human endometrial adenocarcinoma cell line. This line has been utilized extensively in biomedical research related to the study of endometrial cancer, hormone responses, and cancer pharmacology. The cells are known to express estrogen and progesterone receptors, making them a valuable model for studying hormone-related dynamics in endometrial cancer progression and treatment. These cells have been used to investigate the molecular mechanisms of cancer cell proliferation, differentiation, and response to hormonal and chemotherapeutic treatments. In terms of morphology, HEC-1-B cells typically exhibit an epithelial-like shape and grow in a monolayer. They are characterized by their high capacity for in vitro proliferation. Genetic studies have revealed several chromosomal alterations which are thought to contribute to the cancerous phenotype of these cells. Research using the HEC-1-B cell line has contributed to a deeper understanding of endometrial carcinogenesis and offers a robust system for testing potential therapeutic agents. This cell line is also commonly employed in studies focusing on cancer cell invasion and metastasis, providing insights into the cellular behaviors that underpin these processes.
Organism	Human
Tissue	Uterus, endometrium
Disease	Endometrial adenocarcinoma
Synonyms	Hec-1-B, HEC-1B, Hec-1b, EC1-B, HEC1B, Hec1B

Characteristics

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

Regulatory Data

Citation	HEC-1-B (Cytion catalog number 305095)

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Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_0294

Biomolecular Data

Antigen expression	Blood Type B, Rh
Tumorigenic	Yes

Handling

Culture Medium	EMEM (MEM Eagle), w: 2 mM L-Glutamine, w: 2.2 g/L NaHCO3, w: EBSS (Cytion article number 820100a)
Supplements	Supplement the medium with 10% FBS and 1% NEAA
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

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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.