

BEL-7402 Cells | 305308**General information****Description**

BEL-7402 is a human cell line historically described as a hepatocellular carcinoma (HCC) model derived from a liver tumor of an adult donor and widely used in studies of liver cancer biology, proliferation, apoptosis, and therapeutic response. The cells display adherent epithelial morphology and have been applied extensively in in vitro assays and xenograft models as a representative HCC system. BEL-7402 has also been incorporated into genomic and transcriptomic analyses alongside other liver cancer cell lines.

However, substantial evidence has demonstrated that BEL-7402 is misidentified and contaminated with HeLa cells, a cervical carcinoma cell line. Independent short tandem repeat (STR) profiling analyses conducted in multiple laboratories have shown that BEL-7402 shares a genetic profile consistent with HeLa rather than hepatocellular origin. Formal editorial notices have cautioned against the continued use of BEL-7402 as an HCC model unless definitive authentication data are provided, including STR validation and liver-specific molecular characterization. These findings indicate that experimental results obtained using BEL-7402 may not reflect hepatocellular carcinoma biology.

In light of these authentication concerns, BEL-7402 should not be regarded as a reliable hepatocellular carcinoma model. For investigations into HCC-specific molecular mechanisms, genomic alterations, or therapeutic responses, the use of well-authenticated liver cancer cell lines with confirmed STR profiles and validated hepatic gene expression signatures is strongly recommended. If BEL-7402 is used for comparative or historical purposes, rigorous cell line authentication and contamination testing are essential prior to experimental application.

Organism

Human

Tissue

Uterus, cervix

Disease

Human papillomavirus-related endocervical adenocarcinoma

Synonyms

Bel-7402, BEL 7402, Bel 7402, BEL7402, Bel7402

Characteristics**Age**

30,5 years

Gender

Female

Ethnicity

African American

Regulatory Data**Citation**

BEL-7402 (Cytion catalog number 305308)

BEL-7402 Cells | 305308**NCBI_TaxID** 9606**CellosaurusAccession** CVCL_5492**Biomolecular Data****Handling****Doubling time** 20 hours ; 31.2 +/- 1.1 hours**Freeze medium** As a cryopreservation medium, we use complete growth medium + 10% DMSO for adequate post-thaw viability.**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 200 x g for 5 minutes, carefully discard the supernatant containing freezing medium.
7. Follow the procedure described under Post-Thaw Recovery

Incubation Atmosphere 37°C, 5% CO₂, 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.

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**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